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WESTERN MEDICAL TIMES

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CORRESPONDENCE

Keeping Doctors Out of Court; Get a Written Admission of Debt from Patient

MOST doctors are reluctant to sue a patient because they think that in all cases they will have to waste a day in court at a trial of the case. Many states like New York do not permit a patient to go to trial unless he can show by affidavit that he has a real and not a sham defense. Judgment can be readily and quickly obtained on a motion for summary judgment based only on the affidavit of the physician. If the patient can not properly answer the motion and show by his sworn statement that there is something to his side of the case besides a bare assertion that he does not owe the doctor any money, he will never see the day of trial. The doctor will be granted judgment by motion.

What must the doctor do to be sure that the patient will be licked on motion? The answer is a simple one. He must get an admission from the patient, preferably by letter, that he wants time to pay. In this way he admits that he owes the money. Keep writing nice letters to the patient asking him to tell you why he does not pay the amount due and mention the amount and you will find sooner or later the patient will write a letter that he hasn't the money right now or that he wants time to pay or that he is hard up. This is all that the doctor needs to get a judgment on motion. Can a doctor keep out of court? Undoubtedly yes, in those states which like New York permit judgment by motion. You don't have to go to court and waste your time if you are wise enough to get a written admission from the patient by letter that he owes the money.

—Meyer Kirschenbaum, Esq.,
Member New York Bar,
132 Nassau St., New York, N. Y.

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ASSOCIATED PHYSICIANS OF LONG ISLAND

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NEWS AND NOTES

Red Cross Enrolling Medical Technologists for Military Reserve

At the request of the Surgeon General of the Army and in compliance with its policy of cooperation with both the Army and Navy, the Red Cross, as an expansion of its peace-time service for the military forces, has undertaken the enrollment of various types of medical technologists who are willing to serve in the medical departments of the Army and Navy if and when their services are required at the time of a national emergency.

A Newly Synthesized Member of the Vitamin B Complex

SUCCESSFUL synthesis of the chick antidermatitis factor, pantothenic acid, by Doctors E. T. Stiller, J. C. Keresztesy, and J. Finkelstein of the Merck Research Laboratories was recently announced in *Science* by Dr. R. J. Williams, Chairman of the Department of Chemistry of the University of Texas, and Dr. R. T. Major, Research Director of Merck & Co., Inc.

The final step in the synthesis of pantothenic acid was accomplished through the condensation of the well-known amino acid, beta-alanine, with alpha-hydroxy-beta, beta-dimethyl-gamma-butyrolactone, yielding the pure, physiologically active vitamin. Extended studies by Williams had shown that beta-alanine was one of the constituent parts of the compound, and through further investigations at the Merck Research Laboratories, the unknown cleavage product was ultimately isolated, identified, and synthesized.

This newly synthesized member of the vitamin B complex appears to be universally present in minute quantities in living tissues, and consequently was designated by Williams, in 1933, as pantothenic acid.

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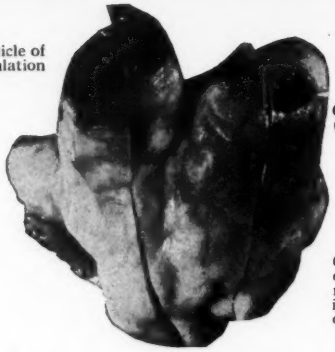
MEDICAL BOOK NEWS

Capable of Inducing Ovulation
IN THE HUMAN SUBJECT



Ruptured Follicle of Induced Ovulation

Current Corpus Luteum (21st day of cycle)

Gonadogen (60 units) injected on 21st day of cycle; ovary removed 16 hours later, when induced ovulation had already occurred.

Of wide clinical interest is the fact that in 1938, through the administration of Gonadogen, ovulation followed by normal corpus luteum development was produced experimentally—for the first time—in the human subject. Gonadogen, prepared from pregnant mares' serum, is obtained in a state of high purity, stable and free from serum proteins, and represents the anterior pituitary type of gonadotropic substance. Clinically it has been found effective in regulating ovarian dysfunction resulting from inadequate gonadotropic stimulation. In the male, its stimulating influence on the testes has also been demonstrated, manifested by growth of the genitalia and development of the secondary sex characteristics.

Because it is gonadotropic for both sexes, the clinical indications for Gonadogen are: in the female, amenorrhea, functional uterine bleeding, dysmenorrhea due to lowered blood estrin, and anovular sterility; retarded sexual development and hypogenitalism in both sexes; in the male, cryptorchidism and oligospermia.

Available, through all pharmacies, in two strengths—in boxes of six rubber-capped vials, each vial containing one sterile tablet of 10 Cartland-Nelson units (approximately equivalent to 100 Cole and Saunders units), together with six 1 cc. ampules physiologic salt solution; in boxes of three rubber-capped vials, each vial containing one sterile tablet of 20 Cartland-Nelson units (approximately equivalent to 200 Cole and Saunders units), together with three 1 cc. ampules physiologic salt solution.

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GONADOGEN

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The Public Health Editorship

WE take pleasure in announcing that Dr. Fred L. Moore has accepted the editorship of the Public Health section in our Contemporary Progress department, taking the post until now held most efficiently by Dr. Morris L. Grover, recently resigned from the Rhode Island Department of Health in order to confine his activities exclusively to private practice.

Dr. Moore is Associate Professor of Preventive Medicine and Community Health in the Long Island College of Medicine, working with Professor Alfred E. Shipley, who has pioneered in correlating practical public health work *in the field* (medical center) with the medical curriculum, much as the founders of this school correlated bedside work with their didactic instruction—each an epoch-making innovation,

The successive stages in Dr. Moore's medical career, all bearing very clearly upon his qualifications, have been as follows:

M.D., C.M., 1924, Dalhousie; C.P.H., 1934, School of Hygiene and Public Health, Johns Hopkins; internship, 1923-24, Victoria General Hospital, Halifax, N.S.; Post Graduate study, Public Health, 1928, Vanderbilt University; Health Officer, Sullivan Co., Tenn., City Health Officer, Bristol and Kingsport, Tenn., 1928-1939; Member, Medical Staff, 1933-39, Kings Mountain Memorial Hospital, Bristol, Va., and 1935-39, Holston Valley Community Hospital, Kingsport, Tenn.; Instructor Preventive Medicine and Public Health, Vanderbilt University, 1935-39; Associate Professor Preventive Medicine and Community Health, 1939-, Long Island College of Medicine.

An American Precursor of Freud

DR. A. A. Brill, in a very notable paper recently read before the section of Historical and Cultural Medicine of the New York Academy of Medicine, discussed an American precursor of Freud. This was Dr. Andrew J. Ingersoll, who conducted a sanatorium known as "Pinewood" at Corning, New York. He was born at Hammondsport, New York, in 1818, and died in 1893.

Dr. Ingersoll, who was the father of the late lamented Raymond V. Ingersoll, Borough President of Brooklyn and by virtue of that office a member of the Board of Estimate of the City of New York, and one whose career had been distinguished as a highly successful conciliator in the field of labor disputes, wrote a book titled *In Health,* a fourth edition of which, issued by Lee and Shepard, of Boston, in 1899, is in the New York Public Library (first copyright 1877). This book contains some biographical notes, as does also James Sullivan's *History of New York State* in the same library. But Dr. Brill also derived much information about the author of *In Health* from the latter's noted son, during a recent return trip from Europe.

The book in question reveals a very thorough understanding of the mechanism of the neuroses according to so-called modern teachings. Practically all the basic Freudian concepts relating to the role of sex are to be found in it. It is an altogether astonishing anticipation of the Vienna savant. Dr. Ingersoll's ideas are religiously rooted and phrased, it is true, for his own conflicts as a divinity student had been his induction by way of a personal neurosis into this novel world of experience before his adoption of medicine as a life career; but his religious terminology in no wise obscures the wise medical rationalization which is everywhere apparent in his book. The principles ex-

pounded and the reports of clinical cases alike reveal an insight quite consonant with present-day teaching and practice. Undoubtedly he possessed the key to the unconscious before its later discovery by locksmiths of vastly greater fame.

Incidentally, Dr. Ingersoll also anticipated the modern exponents of relaxation therapy. No aspect of the warfare between the flesh and the spirit seems to have been missed by him.

There were many, of course, in the dark environment of his day, to whom Dr. Ingersoll's frank revelations regarding sexual psychology and hygiene were inevitably anathema, but it is pleasant to relate that he won many staunch defenders, among them John Ruskin and John Greenleaf Whittier, and his clinical results were what one would expect, flowing from his sound premises. His success as a practitioner was impressive.

Dr. Brill is to be heartily thanked for aligning this forgotten pioneer and seer with the unique and original minds of medicine.

In the discussion which followed Dr. Brill's paper, Dr. Clarence P. Oberndorf pointed out in considerable detail that both Dr. Oliver Wendell Holmes and Nathaniel Howthorne, who, by the way, were intimate friends, had an uncanny understanding of the unconscious. The former displayed this insight in his Harvard Phi Beta Kappa address and in his novel *Elsie Venner,* the latter in *The Scarlet Letter.* Holmes's role is that of the metaphysician, so to speak, while Hawthorne's is that of the clinician, for the technic of Roger Chillingworth, the man of medical knowledge in the novel, is nothing if not psychoanalytic in his dealings with the Reverend Arthur Dimmesdale, whose neurosis is owing to the fact that he is unable to bear the strain of the concealment of his sin with Hester Prynne, and equally unable to confess it.

Medical Times
ESTABLISHED IN 1872

Once again, one is compelled to fall back upon the trite phrase which affirms that there is nothing new under the sun.

Evolution of the Hospital

GOLDWIN SMITH has shown how in Tudor England the suppression of the monasteries, guilds and chantries increased the need for public care of the afflicted poor. This era consequently saw the foundation of the great hospitals, such as St. Bartholomew's, the Bridewell (prison-hospital), St. Thomas', Bethlehem, Christ's and the Savoy, which, however, were insufficient to meet the need. Nevertheless, incessant efforts were made to escape from these institutions, which had to be guarded well. We can easily guess why the inmates were so loath to enter and so eager to leave these places.

Out of these hated havens grew the beneficent hospital of our own time. All hospitals go back, however, to the good care of the people by the monks. The suppression of the monasteries, guilds and chantries, says Smith, is an event that has never been examined sufficiently by students of social history.

Social Chiropractors

ONE sometimes wonders whether the development, rather than the scrapping, of the old type of medical school—along the splendid lines exemplified by some of the still surviving medical colleges of the old era—might not have prevented the mushroom growth of the freak schools whose egregious healer products now plague us to death.

One cannot surely know; one can only wonder.

The abolition of the old type of medical school, which in its best form trained good general practitioners for all the people, and the creation of the new type of university-

—Continued on page 239

Prerenal Azotemia

IN GASTRO-INTESTINAL HEMORRHAGE

ROY UPHAM, M.D., F.A.C.S.

Associate Professor of Medicine at New York Medical College; Head of Section of Gastro-Enterology and Attending Gastro-Enterologist at Flower and Fifth Avenue Hospitals and Metropolitan Hospital.

and

N. W. CHAIKIN, B.S., M.D.

Associate in Medicine Metropolitan Hospital; Chief of the Gastro-Enterology Clinic and Assistant Instructor of Medicine at New York Medical College.

New York, N. Y.

ONLY in recent years has attention been focussed on the subject of prerenal deviation or prerenal azotemia. Less attention, still, has been drawn to azotemia subsequent to hemorrhage of the digestive tract. Observations on this subject have been few and fairly recent. This paper deals with an analysis of 27 cases of hemorrhage due to peptic ulcer, with particular reference to the presence of azotemia and its significance.

Does azotemia appear regularly in hematemesis and melena or does it only occur in cases of fatal hemorrhage? Twenty-seven cases of gastro-intestinal hemorrhage due to peptic ulcer were selected at the Metropolitan Hospital to observe the various factors involved. These cases had no known complications.

These twenty-seven cases of gastro-intestinal hemorrhage due to peptic ulcer showed the following blood urea values:

1. Less than 38 milligrams per cent of blood urea—15 cases.
2. More than 38 milligrams per cent of blood urea—12 cases.
   a. Fifty milligrams per cent to 69 milligrams per cent—7 cases.
   b. Thirty-eight milligrams per cent to 50 milligrams per cent—5 cases.

Less than half (12) showed increased blood urea values. Out of this group, five patients had values between 38 - 50, which is regarded by McKay and McKay[6] as a high normal. Seven patients had blood urea values between 50 - 69 milligrams per cent. In the increased blood urea group, all had analyses within the first four days except one patient. In the normal blood urea group, seven had determinations within the first four days, the other eight falling in the period beyond four days up to a few months. The increased blood urea values appear more commonly within the first four days of hemorrhage. These tend to approach normal after a period of time. It has been pointed out by Ingegno,[3] and Rafsky and Weingarten,[10] that persistence of elevated blood urea values with continuing hemorrhage indicates an unfavorable outcome. This persistent elevation was found in three cases of continuing hemorrhage. With the cessation of hemorrhage, however, the blood urea values returned to normal.

No correlation was found between the azotemia and degree of anemia. The hemoglobin varied in the 27 cases from 35 per cent to 90 per cent. In the normal blood urea group, the hemoglobin averaged 51

per cent, whereas in the azotemic group, the hemoglobin averaged 56 per cent. As was observed, a normal or slightly depressed hemoglobin was found associated with increased blood urea values and, on the other hand, in cases with pronounced anemia, normal blood urea values were found. Between these extremes were found variations in combinations.

In the 27 cases studied the urinalysis was not remarkable. In 14 of these cases, the Fishberg concentration test was done and showed good concentration power of the kidney.

Blood chlorides were done on 10 cases. This test was normal in six cases and moderately lowered in four cases. These four cases had increased blood urea values. Moreover, the latter four cases showed diminished urinary chlorides. Four cases with normal blood chlorides showed normal urinary chlorides.

The blood pressure was found to be lowered in about half the cases. Some of the normal blood urea cases fell in this group but the majority occurred in the azotemic group.

✚

AZOTEMIA signifies an abnormal increase in the non-protein nitrogen level of the blood. This includes urea, uric acid, ammonia, amino-acids, creatinine, creatine, and some nitrogenous substances known as undetermined nitrogen or rest nitrogen. The normal figure fluctuates about 30 milligrams per 100 c.c. of blood. Above this is considered abnormal. Usually, urea nitrogen consists of one-half of the total non-protein nitrogen.[1] Peters and Van Slyke[2] have shown that the normal range of blood urea is between 10 - 50 milligrams per 100 c.c. of blood. However, most figures range between 18 and 38 milligrams per cent. This last figure has been selected as the normal.

Increased blood urea values have been observed in pathological conditions other than renal in origin. This has been found in shock or in conditions where there has been long continued loss of body fluids as in starvation, vomiting, diarrhea, copious sweating, continuous gastric lavage, and hemorrhage, especially gastro-intestinal. This has also been seen in acute febrile conditions such as lobar pneumonia, in Addison's disease and in conditions of extreme arterial hypotension such as encountered in diabetic coma and in coronary occlusion. Prerenal azotemia has also been seen in cases of severe hepatic failure. Although azotemia is often seen in the beforementioned conditions, it is not a constant finding or may occur in the late stages.

PRERENAL or extrarenal azotemia is not due to renal disease but is due to a functional or a minor pathological disturbance of the kidney. The causes are those affecting the circulation or the composition of the blood before it reaches the kidney. This type of functional derangement is characterized by the following:[1]

1. Oliguria—prerenal loss of fluids from the blood.
2. High specific gravity of the urine. Concentrating power of the kidney is not seriously affected.
3. Azotemia—increased destruction of proteins is a factor.
4. Depression of the chloride content of the blood (hypochloremia). The loss of blood chlorides occurs into other body fluids.
5. Increased blood concentration. Increased red blood cell count, elevated plasma proteins, and decreased circulating blood volume.
6. Low chloride content of the urine. This is a result of hypochloremia.

Fishberg states that many of these factors may be changed with the severity of the case.

Ingegno[3] and, also, Alsted[4] have shown in their work that azotemia in acute gastro-intestinal hemorrhage probably plays little part in the clinical symptomatology. They studied uncomplicated cases, which rarely reach uremic proportions. Sanguinetti,[7] however, regards these elevations with apprehension, suggesting cecostomy if neces-

sary to get rid of the retained blood. Christiansen,[5] also, attributes the 21 fatalities of massive hemorrhage in his series of peptic ulcer as due to an "exhaustio vibrio" or prerenal azotemia.

THE explanation of the azotemia is not satisfactory. Blum[9] believes that the loss of chlorides disturbs the osmotic equilibrium. The loss of such an electrolyte from the plasma leads to a fall in the osmotic pressure of the plasma which is at first balanced by bicarbonate and then by urea. Blum calls this "l'azotemie par manque de sel." Christiansen[5] attributes the azotemia to the reabsorption of toxic substances originating from the accumulated blood in the intestinal tract. This occurs with the demineralization due to excessive flushing of the body by fluids.

Fishberg[1] attributes the azotemia chiefly to dehydration causing an oliguria. The blood volume to the kidney is too limited to keep pace with the excretion of the urea formed in the body and the blood nitrogen rises.

Taylor and Lewis[8] demonstrated increased blood urea values in anemia following repeated hemorrhage. This might have been due to decreased blood volume and not to anemia.

Ingegno[3] and, also, Sanguinetti[7] believe that the most significant factor is the reabsorption of blood liberated into the gastro-intestinal tract, causing an elevation of the blood figures, especially in cases of continued bleeding. This is most noticeable where vomiting is not marked and constipation is present.

Summary and Conclusions

1. In a study of 27 cases of gastro-intestinal hemorrhage with hematemesis and melena, increased blood urea values were observed in less than half the cases. These increased values were observed more commonly within the first four days of hemorrhage.

2. There was no correlation between the degree of azotemia and anemia.

3. In all the 14 cases studied, the Fishberg concentration was normal.

4. The blood chlorides were studied in 10 cases. These findings were normal in 6 cases and moderately lowered in 4 cases. The latter 4 cases showed increased blood urea values and diminished urinary chlorides. The urinary chlorides were normal in 4 cases with normal blood chloride levels.

5. The blood pressure was lowered in about half the cases. This occurred in the majority of the azotemic group.

6. The cause of the increased blood urea values is not settled. It may be due to a combination of the factors of shock, dehydration, hemorrhage, and reabsorption of blood from the intestine.

7. In these 27 uncomplicated cases, the elevation of the blood urea played little part in the symptomatology and did not reach high levels.

45 EAST 74TH STREET.

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Exophthalmic Goiter

IN PATIENTS PAST THE AGE OF SIXTY

ISRAEL BRAM, M.D.
Philadelphia, Pa.

WHILE the average case of exophthalmic goiter or Graves' disease is seen in the young adult, the syndrome is often observed in the extremes of age. In our series of over 5000 cases, we have observed a greater incidence of the disease in the aged than in children. The present report on patients past 60 comprises a series of 120 cases presenting noteworthy clinical characteristics.

These remarks apply only to true exophthalmic goiter or Graves' disease, otherwise known as the diffuse toxic goiter of recent origin, in which there is commonly observed a bruit over the thyroid, and usually exophthalmos. We are not discussing that form of thyroid toxemia known as toxic adenoma in which there is an oldstanding nodular goiter that presents no bruit and no exophthalmos.

WHILE in our experience the *sex incidence* of Graves' disease in young adults is approximately 1 male to 5 females, and in children it is about 1 to 20, in patients past 60, the ratio approaches 1 to 2. Thus in our series of aged patients, 38 occurred in males and 82 in females. The older the patients the greater the parity of sex incidence. This may be explained by the fact that in the male the syndrome commonly asserts itself by fully 10 years later in life than in the female.

The duration of symptoms as stated by patients past 60 is much greater than in the average patient. Indeed, the average patient past 60 presents evidence of circulatory insult indicative of years of suffering. While the majority believed the inception of the disease to have occurred 5 or 6 years before applying for treatment, it can be reasonably inferred that the actual duration of the disease was much longer, since these patients rarely seek medical attention until the syndrome has made inroads into the sense of well-being and capacity to work. It is only after there have occurred marked loss in weight, distressing palpitation and dyspnea, trembling and insomnia, that the average elderly patient finally seeks assistance, expecting a verdict of heart disease. In the average case the physician was not consulted until after the establishment of such significant signs as large neck and bulging eyes.

Table of Age Incidence in 120 Cases of Exophthalmic Goiter in Patients past 60

69	(57 per cent)	age 61 to 65
46	(38 per cent)	age 66 to 70
5	(5 per cent)	age 71 to 78
Total: 120	**(100 per cent)**	

The thyroid in the patient past 60 is usually enlarged but moderately. In approximately 33 per cent of our series there was no swelling on inspection, but on deep palpation the thyroid was definitely goiterous. The occasional patient presented no thyroid swelling whatsoever, although the associated symptoms were indicative of marked thyroid toxicity. We could discern no relationship between the size of the thyroid and the severity of the symptoms, though on many occasions the larger thyroid occurred in the patient presenting a moderate syndrome. In general, the physical characteristics of the thyroid were indicative of chronicity of the affection.

From the Bram Goiter Institute. Based on a series of 120 cases.

While hyperplasia appeared to predominate as the basic pathology, adenomatous, fibrous and even cystic changes of minor degree were apparent on palpation in a percentage of these patients. Uncommonly the organ presented a tendency to gravitate substernally, but actual complete substernal location of the hyperplastic organ was uncommon and occasioned no pressure symptoms. This last characteristic is an important point differentiating Graves' disease from the hyperthyroidism of toxic adenoma.

EXOPHTHALMOS was present in approximately 60 per cent of our series and was usually of slight to moderate degree, although in approximately 15 per cent bulging of the eyes was severe enough to occasion considerable discomfort. In almost all cases of exophthalmos lacrymation and some degree of conjunctival congestion were evident. In these patients swelling of the eyelids, of apparently myxedematous character, may be a prominent and distressing symptom.

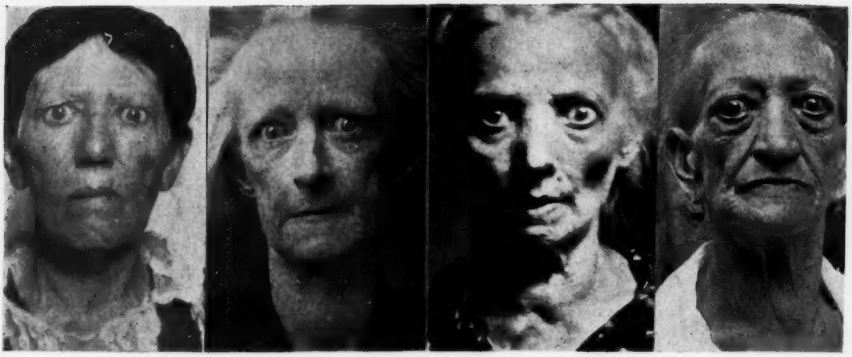
Circulatory symptoms were invariably present. Generally speaking, tachycardia is not so severe in patients past 60 as in young adults. While occasionally the heart rate is found to be 120 or more per minute in nonfibrillating hearts, the average rate in this series was approximately 90 per minute. Palpitation was the most common subjective symptom; next in order was shortness of breath. Actual precordial pain simulating attacks of angina pectoris occurred in approximately 10 per cent of our series, while in slightly over 2 per cent definite angina pectoris complicated the clinical picture. Auricular fibrillation occurred in approximately 50 per cent; some patients were aware of the arrhythmia, others were not. In about one-third of this series endocardial murmurs in association with marked enlargement of the heart occurred. Impending or actual congestive heart failure, usually accompanied by either continuous or recurrent auricular fibrillation, occurred in approximately 15 per cent of the entire series.

Arterial hypertension is commonly observed in elderly sufferers from Graves' disease, while arterial hypertension is the usual finding in the young adult. In the event of congestive heart failure, the blood pressure in elderly patients is apt to be considerably reduced. A high pulse pressure is almost invariably present and is of diagnostic importance, the diastolic pressure being usually within normal limits or below.

The fact that circulatory phenomena predominate in elderly sufferers from Graves' disease is why the syndrome so often masquerades as heart disease. Not alone is the patient impressed with the need of attention to the heart, but frequently the family physician is likewise misled. This explains the frequent cases of prolonged treatment by digitalis and by other ineffectual remedies, with loss of valuable time for the patient. The error in diagnosis is the more possible in the occasional patient whose heart rate may be normal, and in whom even the basal metabolic rate may not reach beyond plus 10 or 15 per cent.

THE tremor in patients past 60 is constant, and is usually coarser than in the average case. It is usually associated with a sensation of generalized tremulousness of which the patient commonly complains. It is common for such a patient to complain that writing is difficult and even illegible because of the trembling, and that sipping fluid from a filled glass results in spilling of some of its contents.

The weight in this series of patients past 60 represented, in general, a marked loss, varying from a drop of 15 pounds in moderate cases to a loss of 100 pounds or more in emaciated individuals who were overweight prior to the onset of the malady. While in the isolated case in which there occurred a tired or "burned out" thyroid (despite persistence of atypical Graves' symptoms) the associated hypothyroidism resulted in a return of the weight to normal or above, the average loss of weight in our series was 21 pounds. The greatest loss occurred in a woman of 68, weighing 110 pounds, whose usual avoirdupois during health 15 years before was 200 pounds.



Series of cases of exophthalmic goiter in crisis in patients past age 60. The first patient is 64, with a badly fibrillating heart, beginning circulatory decompensation and a basal metabolic rate approaching plus 100 per cent. The second patient, aged 61, presents a heart rate of 120 per minute and a B.M.R. of plus 90 percent.

The third patient, 68, is a case of postoperative Graves' disease in moribund condition and with circulatory decompensation.

The fourth patient is 78, with a fibrillating heart, and a B.M.R. in excess of plus 100 per cent.

Fatigability and weakness are prominent and constant complaints in nearly all of these patients. Arising weary and worn from a restless night, the elderly patient either is totally invalided or must drive himself to attempts at customary tasks. While in many cases there is partial success at adjustment to work, the patient tires easily and soon finds himself exhausted. In many cases the patient affirms that customary duties, whether household or wage-earning, have been discontinued for a year or longer. Doubtless this was due not alone to the chronicity of the syndrome but also to advancing years.

The basal metabolic rate in this series neither generally assisted in diagnosis nor reflected the severity of the syndrome. Much could be said of the many variables and apparent inconsistencies of metabolic readings in Graves' disease, particularly in elderly patients. Suffice it to say that while the test should be done repeatedly in all cases for *comparative* purposes, i.e., to determine changes in reading as the result of treatment, it is not dependable as the final *diagnostic* criterion. Diagnosis should rather depend upon a combination of the patient's history and the use of the five senses of the experienced clinician.

IN diagnosis, it is well to recall that the terms "masked hyperthyroidism" and "apathetic hyperthyroidism" have been introduced in recent years by a number of authors, among whom are Levine and Sturgis, Priest, Tucker, Hamburger, Levine and Walker, Hamburger and Leo, Morris, Towers, Lahey and others. Doubtless a number of patients in this series could be conveniently so classified. In patients presenting dominating heart symptoms and arterial hypertension, the circulatory phenomena readily "mask" the basic causative syndrome in which goiter and exophthalmos are not tangibly exhibited, and the marked emaciation and weakness easily deserve the adjective "apathetic." These terms serve to put the diagnostician on guard.

Such conditions as neurocirculatory asthenia, primary heart disease including angina pectoris and coronary disease, cardiac neurosis, malignant arterial hypertension, pulmonary tuberculosis, hyperepinephrinism, Parkinson's syndrome and dia-

betes mellitus are among the conditions requiring careful discrimination from Graves' disease in elderly patients. Even a spurious attack of acute biliary disease or acute appendicitis has been observed to mask a basic atypical Graves' disease.

IN conclusion, a few therapeutic comments are in place. In view of their questionable circulatory reserve and inadequate resistance, these patients are poor surgical risks. Despite a low immediate operative mortality rate, circulatory collapse may occur days or weeks after thyroidectomy. Hence, whenever a choice is available between expert radical and expert conservative treatment, the latter, in our experience, is preferable.

Summary

1. The clinical features in a series of 120 cases of Graves' disease in patients past age 60 are discussed.

2. Tachycardia in the average case was moderate. Most patients presented a more or less chronic syndrome of several years' duration, commonly with such dominating circulatory symptoms as arterial hypertension, auricular fibrillation, precordial distress, shortness of breath and impending or actual congestive heart failure.

3. Other noteworthy clinical characteristics were the following: The thyroid was either only moderately enlarged or occasionally quite normal in size; in most cases exophthalmos was of slight or moderate degree and frequently associated with conjunctival congestion and swelling of the eyelids; the tremor was constant and coarser than in young patients; loss in weight, fatigability and weakness were characteristically marked.

4. The basal metabolic rate was generally moderately elevated and occasionally quite normal despite otherwise 'ypical signs and symptoms of Graves' disease. Hence the test was of greatest use not in diagnosis but as an index of progress of treatment.

5. In differential diagnosis, care must be exercised to exclude among other maladies such conditions as neurocirculatory asthenia, primary circulatory conditions including malignant hypertension, and Parkinson's syndrome.

6. Because of inadequate circulatory reserve and advancing years, these cases are poor surgical risks even in representative clinics. Treatment should therefore lean toward carefully planned conservatism.

1633 SPRUCE STREET.

PRECORDIAL PAIN

The benign precordial pain is apt to be diffuse, of a sharp, sticking or cutting character. Precordial hyperesthesia is common and following the attacks, there is frequently residual soreness, even complaining of pressure on auscultation or percussion. Radiation of the pain may be typical and generally aids little in differentiation. True anginal pain is almost invariably related to effort or emotional strain and the patient tells this fact very simply. But with the benign pain, the story is highly colored and more vivid, with all the associated vasomotor disturbances. Palpitation is commonly associated with benign precordial pain but is rarely associated with true angina pectoris unless the attack is induced by a paroxysm of tachycardia or unless the anginal syndrome is complicated by hyperthyroidism.

M. D. Hargrove, M.D.
Tri-State Med. J., Dec., 1939

INDICATIONS FOR SULFANILAMIDE

In Otolaryngology

HENRY BUEL SMITH, M.D., F.A.C.S.
and
EUGENE H. COON, M.D., F.A.C.S.
Hempstead, New York

THE use of sulfanilamide as a chemotherapeutic agent in the treatment of diseases of the ears, nose and throat is acclaimed quite generally. It is used by otolaryngologist and general practitioner alike. Last year the American Public consumed 187 tons of this drug which may prove to be one of the wonders of modern medicine. In three years it has been reported to have cured or relieved many thousands of patients who have suffered from at least twenty different serious diseases. The literature now contains many experimental and practical considerations of the value of this unusual chemical; thus a recent issue of the *Journal of the American Medical Association* carried no fewer than five articles which reported experiences with this drug. It is safe to say that sulfanilamide and its derivatives have already established a place in the treatment of hemolytic streptococcic and pneumonic meningitis and septicemia. However, the evaluation of sulfanilamide therapy in all streptococcic and pneumonic diseases of the ears, nose and throat will require an enormous amount of further clinical study. Many questions have been presented since the drug was introduced a little more than three years ago.

Read at the Staff Meeting of the Nassau Hospital, November 8th, 1939.

SHOULD every case of sore throat, rhinitis and acute otitis media receive sulfanilamide? Does sulfanilamide cure peritonsillar abscess? Is there less need for surgical intervention in cases of acute mastoid infection? What is the clinical course of the patient? Does it mask the symptoms and signs so that clinicians must learn anew to diagnose surgical mastoiditis and otogenic meningitis?

Naturally a therapeutic agent so recently developed must necessarily give rise to a divergence of opinions regarding its indications, chemical form, mode of administration, dosage and prophylactic use. In the light of the present literature I shall discuss some of these questions.

IN regard to the chemical form three preparations are in favor. Sulfanilamide and neoprontosil are used to combat the beta streptococcic infections and sulfapyridine to treat the pneumonic infections. The relationship as regards mode of action between sulfanilamide and neoprontosil is not clear. Long and Bliss believe that neoprontosil acts only after it has been reduced to sulfanilamide within the body. 100 cc. of neoprontosil solution equals 11 gms. of sulfanilamide. While most authorities admit that neoprontosil is less toxic, they feel that sulfanilamide has proven more effective.[1] Brown says, in the July 1939 issue of the Medical Clinics of North America, "In considering the preferable sulfamido preparation for general use it seems evident that sulfanilamide is the drug of choice."[2] The Mayo Clinic reports

"sulfanilamide orally is preferable." McLaurin states, "Neoprontosil is supposed to be seven times less toxic than sulfanilamide, but just as effective. Where it is used, however, the free sulfanilamide in the blood has never been reported higher than 3.6 mgm. per 100 cc., though doses as high as 6 gm. per day have been given. . . . We have found in conjunction with Doctor E. K. Marshall, that a blood sulfanilamide level of 10 to 15 mgm. per 100 cc. represents an effective concentration of the drug."[3] It would seem, therefore, that in spite of its greater toxicity that sulfanilamide is the drug of choice. It is highly probable that within a reasonable time a new derivative of sulfanilamide, that will produce all of its beneficial results without its disagreeable toxic symptoms, may be developed.

IN considering the dosage of these drugs for clinical use, the main consideration is of course to obtain the concentration in the blood and throughout the tissues which will bring about the destruction of the infecting organism. Most authorities agree that a concentration of 10 mgm. per 100 cc. of blood has proven satisfactory but Long and Bliss have shown that a higher concentration is equally well tolerated by most individuals and is more effective in the severer infections. On the other hand, it also seems true that in more moderately severe infections concentration in the blood at levels of 5 to 10 mgms. is effective.

These blood levels may be successfully approximated by administering orally an initial dose of 4 to 6 gm. of sulfanilamide to the average adult of 100 to 150 pounds and following this with a maintenance dose of 1 to 1.3 gm. at four hour intervals. In children the same ratio is given according to weight. So that the initial dose for a 50 pound child would be 2 gm. supplemented at four hour intervals by a .5 gm.

When parenteral administration is used it is best to approximate the foregoing amounts. In a severe infection one would give an initial dose of 300 to 500 cc. of an 0.8 per cent solution and follow this at 8 hour intervals by 1/3 of the 24 hour dose. In the milder, subacute and chronic infections a similar procedure is followed but smaller doses are given since the need for haste is not so marked.

If one uses neoprontosil, a good procedure is to give 1 gm. per 20 pounds of body weight with a total daily dose of not more than 5 gm. Brown remarks that it is of interest in this regard that, although neoprontosil has seemed much less toxic than sulfanilamide in amounts of less than 5.5 gms. daily, when larger amounts are given there is frequently difficulty of gastro-intestinal absorption which leads to abdominal distress. Brown also recommends in severe or fulminating infections that neoprontosil be supplemented by sulfanilamide.[4]

THE question of toxic manifestations is a most important one in this group of drugs, for such manifestations do occur to a greater or lesser degree in fully 90 per cent of patients. It is also likely that the appearance in many patients of mild toxic manifestations, which usually subside before becoming serious, lull some of us into a sense of false security so that proper precautions are not exercised when serious changes in the clinical or blood picture develop insidiously.

Truthfully, all patients, to whom sulfanilamide is administered, should be confined to bed and preferably in a hospital so that frequent blood counts, hemoglobin determinations, and drug concentration tests may be done. Minor and transitory toxic symptoms may be dangerous to the patient and others. I recall one patient with acute nasopharyngitis to whom I gave sulfanilamide. In 24 hours she became intensely dizzy and remained thus so long as the drug was continued. Doctor Lloyd Felton of the National Institute of Health recently told of an instance that illustrates the mental fogginess, similar to alcoholic intoxication, that sulfanilamide can cause.[5]

Not long ago he took a taxicab from the Union Station in Washington to his home. At the first traffic intersection the driver drove through a red light, then stopped to examine his brakes. Thinking that the man was drunk, Doctor Felton began to question him.

He denied that he had been drinking but added: "Those pills the Doc gave me for a cold sure make me feel funny." Doctor Felton asked for one of the pills, tasted it, and immediately came around to the front seat of the cab saying, "Move over, son, I'll drive the rest of the way home."

Doctor W. B. Atkinson of Kentucky relates his own experiences: "The first time I ever took any medicine in my life I had a streptococcic sore throat and I very religiously got scared and took two tablets every two hours for about three days and nights, and I want to warn you when you do that don't try to drive a car, because you see one twenty yards down the road and you think it is right at you, you see one half a mile down and you think it is behind you. It is almost as satisfactory for a cheap drunk as bootleg bathtub gin."[6]

All Medical officers of the British Royal Air Force have been instructed that no one should be allowed to fly or drive while taking sulfanilamide or related chemical remedies. Peacetime experience shows that a full dose of it or of its derivatives taken shortly before flying lowers an aviator's ceiling by about 5000 feet.[7]

SINCE sulfanilamide is considered specific for all beta streptococcic infections and has seemingly proven beneficial in gonococcic, pneumococcic and other infections, it would seem to be indicated in practically all acute infections of the ears, nose and throat together with complications of these diseases. Nevertheless, many of these diseases are self-limited and usually run a short course. Personally, I feel that the dangers from toxic symptoms in ambulatory patients preclude the use of sulfanilamide in acute rhinitis, acute pharyngitis, acute tonsillitis and at least in mild cases of acute purulent otitis media. Doctor Jones of Des Moines writes, "In streptococcic pharyngitis and tonsillitis the results have not been striking due to the usual short clinic course."[8] Doctor Maybaum and others of New York state, "We are opposed to the indiscriminate use of sulfanilamide for infections of the upper respiratory tract, many of which run a self-limited course in any event. The free use of this preparation, aside from the dangers of toxicity, frequently obscures the clinical picture and often gives rise to a latent course of the disease. Our point of view regarding the administration of sulfanilamide for minor infections of the upper respiratory tract is necessarily subject to change; however, for the present (1939) we use the drug only in otitic complications, such as meningitis, sinus thrombosis and abscess of the brain."[9]

It is in the treatment of these diseases that the otolaryngologist finds the best indication for the use of sulfanilamide. Previous to the advent of this drug streptococcic meningitis was considered as 97 per cent fatal. We had seen but one case recover, and Gray reported that he could find but 66 cases in the literature of the past 35 years.[10] In the last 15 years Johns Hopkins Hospital admitted 37 cases with a mortality of 100 per cent.[11] Now the picture is nearly reversed. One authority places the recovery ratio at 75; and the literature contains the reports of many recoveries. Personally our mortality rate has fallen to nearly zero. May it always remain so.

SULFANILAMIDE may be given in otitis media before suppuration has taken place. We do not have sufficient evidence to express an opinion as to its value here but pediatricians have reported favorable results. After suppuration has taken place the drug should be used cautiously and the patient observed carefully because of the masking of the clinical picture and also because it is very doubtful whether sulfanilamide is effective in any osteomyelitic condition. Kopetsky expressed the opinion that sulfanilamide will clear the body fluids infected by streptococci, but it does not seem to kill streptococci located in an active osseous lesion.[12] Those who believe that sulfanilamide should be given from the onset of an otitis media should observe their patients very carefully over an extended period of time and note whether there is a reoccurrence of symptoms and signs after the drug has been discontinued. And again I would remind those who become very enthusiastic

over their results that acute purulent otitis media is also in general a self-limited disease. In our experience 9 out of 10 cases will recover without the use of the drug.

Now as regards the masking effects, "Otologists for a long time have been familiar with the clinical course of otitic infection due to pneumococcus type III. The characteristic insidious clinical picture which an infection with this organism produces is almost identical with that resulting in some cases from the use of sulfanilamide during acute otitis media. There is the same freedom from pain; tenderness over the mastoid, which may be present at first, soon lessens or disappears; there may be apparent improvement of the infection in the middle ear, indicated by diminution or absence of discharge, but on further examination one notes the appearance of an unresolved infection, i.e., a thickened drum with absence of landmarks. Resolution may be much delayed, or a recurrence of signs of infection of the middle ear, with evidence of involvement of the mastoid or an otitic complication, may rather abruptly follow a longer or shorter period of latency."[13]

Otitic complications also run an asymptomatic or an atypical course. We called attention to this in a case reported before the Nassau County Medical Society in April 1937. I shall review it briefly.

"During the course of acute suppuration of the middle ear the patient, a 6-year-old child, had been receiving moderate doses of sulfanilamide. Following a mastoidectomy a clinical picture of sepsis presented itself; i. e., the patient had a spiking temperature between 100° and 104° F., for which no other cause could be assigned, despite negative blood culture. A Tobey-Ayer test was done to confirm a strong suspicion of the presence of thrombosis in the lateral sinus, but to our astonishment the spinal fluid was cloudy, showed a high cell count and on culture yielded *Streptococcus haemolyticus*. The patient's mastoid's were revised, and intensive sulfanilamide therapy was then given, followed by recovery."[14]

IN closing I wish to make the following summary and conclusions:

1. The use of sulfanilamide in otolaryngology has resulted in a real advance in the therapy of certain otogenic infections.

2. The drug should supplement, not replace surgery.

3. Sulfanilamide is not advised in minor self-limited diseases of the ears, nose and throat.

4. The use of the drug may obscure the diagnosis, or cause a masked or latent involvement of the mastoid.

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Diabetic Coma WITH CONVULSIONS

A Case Report

MORRIS ANT, M.D.

Brooklyn, N. Y.

INSTANCES of convulsions in diabetes are rarely recorded in the literature. In practice they are met with so infrequently that it is rather generally believed that convulsions do not occur in diabetic coma. When epileptiform attacks have been observed in diabetes there has been a tendency to regard the association as accidental or, perhaps, as related only indirectly to the disease in question.

Conner[1] points out that a certain proportion of such convulsive attacks are uremic in nature, and infrequently associated with nephritis. Further, the condition may be the concomitant of cerebral artery change, with possible bleeding or malacia, or perhaps it may be due to an associated meningitis. In brain lesions which disturb the glycosuric center in the medulla there may be glycosuria and epileptiform seizures. It must be remembered that an epileptic may develop diabetes. Conner points out that a large proportion of epileptiform attacks develop long before any signs of coma are manifest, and are associated with such other symptoms as to simulate closely the symptoms of a focal brain lesion. Abbe[2] reported a case of unilateral convulsion, hemiplegia and aphasia which was associated with acute mastoid disease on the opposite side; this led to the diagnosis of brain abscess, although it actually was due to diabetes.

A case of diabetic coma is presented herewith, because of its association with the uncommon complication of epileptiform convulsions. There was a surprising recovery from the convulsive state after the intravenous administration of calcium gluconate.

Case Report

Present History: — A woman of sixty-two years was seen first in the emergency room of the Beth-El Hospital. She was drowsy but able to answer questions and to speak coherently. Her widely dilated pupils did not react to light and accommodation. Her tongue deviated to the right of the mid-line. During the examination the patient became very restless and suffered convulsive movements involving both upper and lower extremities, which movements later became clonic in type. Her facial muscles were not affected and it was extremely difficult to open her mouth to insert a gag. Following this convulsion the patient sank into a coma, in which state she was admitted to the ward.

She was again examined and found to be in deep unconsciousness. Her eyeballs were soft, with fixed, dilated pupils; breathing was slow, deep, stertorous; her face and extremities were cyanosed. Her pulse was rapid and feeble, with a short interval of complete vascular collapse.

The laboratory findings at this time were:

Glycosuria	5 per cent
Acetone	1 plus
Blood sugar	492 mgms.
CO_2	23 volumes per cent

Fifty units of insulin were administered by intravenous, and fifty units by subcutaneous injection. Half an hour later clonic and tonic contractions took place suddenly, which involved all four extremities. The fingers of both hands became fixed in the obstetric position. There was twitching about the mouth and eyelids. Four seizures, from two to ten minutes each in duration, took place at half-hour intervals. At the end of each episode the patient was in complete collapse and mechanical resuscitation was necessary to revive her.

From the Diabetic Service of the Beth-El Hospital.

Examination of the urine at this time revealed three per cent glucose. Ten cubic centimeters of calcium gluconate were administered intravenously, and thirty units of insulin, and the same additional amount of protamine subcutaneously. The convulsions did not recur. The patient became restless, tossed about for a few minutes and appeared to be more calm. Her breathing was still labored.

Neurological examination revealed fixed, dilated pupils. Eyegrounds pointed to an old diabetic retinitis, with punctate hemorrhages.

The concomitants of epilepsy, foaming at the mouth, biting of the tongue or loss of sphincter control, were absent. Blood pressure at this time was 195/45. Although the convulsions were typical of those seen in the eclamptic state, blood and urinary findings revealed no renal pathology.

In the excitement of the first few hours the calcium and phosphorus blood study was omitted. A few days later, findings revealed:

Calcium	10.5 mgms.
Phosphorus	3.9 mgms.
Phosphatase	4.5 Bodansky Units

The case was worked up from every conceivable angle. X-rays of the chest revealed calcific deposits in the region of the right middle lobe, with no indication of recent activity.

Patient's Past History:—Fourteen years previously she was physically run down and was sent to the mountains for a rest. There, during her first two days' stay, she ate several large portions of strawberries with cream and sugar. She developed convulsions and was rushed to the Kingston Hospital, in coma. No food was allowed for several days until she recovered, at which time her urine contained three per cent sugar. Since that time she worked hard as a grocer and, apparently, had been well. She was not cautious with her diet nor did she take insulin.

A week before her emergency admission to the hospital she sensed a gradual numbness in her fingers, with weakness in her left hand. She then became drowsy and suffered three convulsive seizures within two hours before she was brought to the emergency room.

✚

Differential Diagnosis

A *HYPOGLYCEMIC convulsive state* was quickly ruled out by the low CO_2 volume percentage and the high blood sugar.

Epilepsy was ruled out because of the absence of a history of previous attacks and lack of typical epileptic equivalents and physical signs. Although these convulsions may simulate the general convulsions of epilepsy or even perhaps be distinctly Jacksonian, the evidence points to some form of diabetic intoxication. These convulsions may be associated with transient paralysis of the affected muscles, aphasia, and sensory disturbances suggestive of a brain lesion; and it must again be stressed that diabetic intoxication must be considered.

Hypertensive encephalopathy was also ruled out by the absence of marked hypertension or nephritic involvement.

Cerebral accident was regarded as unlikely because of the lack of neurological signs and the quick recovery of the patient, with no neurological residue.

Brain tumor, metastatic from the bronchi, breast, lungs or ovaries, was considered, but intensive study along these lines proved fruitless.

Tissue dehydration as a cause for epileptiform convulsions, as reported by Blanckenburg[3], was ruled out. Although the patient was thoroughly dehydrated she was not given any fluids parenterally until about twelve hours after recovery from the convulsions.

Therapeutic results apparently point to calcium gluconate as the beneficial agent. The possible inference that the medication acted as a strong antiketogenic factor does not apply in this case, because at the time of the last seizure the catheterized urine showed a decrease from five to three per cent glucose and no acetone. The injection was given ten minutes later.

There remains, therefore, one conclusion namely, that a *hypocalcemia with tetany* was present, especially in view of the cessation of convulsions following calcium gluconate therapy. Quick recovery followed, with the patient discharged on the eighteenth day. Blood pressure was then 130/80; urine and blood findings were within normal limits. The maintenance diet, upon discharge, was: carbohydrates 150 grams, proteins 75 grams and fats 75, covered by regular insulin 10-0-15.

Summary

1. Because of the rarity of epileptiform convulsions in connection with diabetic coma, it is rather generally believed that they do not occur.

2. A case is herewith presented, brought into the hospital in coma, followed by epileptiform convulsions.

3. In the differential diagnosis hypoglycemic convulsive state, epilepsy, hypertensive encephalopathy, cerebral accident, brain tumor and Blanckenburg's syndrome were ruled out.

4. A diagnosis of hypocalcemia with

—Concluded on page 250

SPECIAL ARTICLE

CLINICOPATHOLOGIC CONFERENCES OF THE LONG ISLAND COLLEGE OF MEDICINE

Clinicopathologic conference held at the Hoagland Laboratory December 6, 1939. Clinical presentation by Dr. Tasker Howard, Professor of Medicine. Anatomical Diagnosis by Dr. Jean Oliver, Professor of Pathology. Reported by Dr. Robert Dickes.

CASE VII

Clinical Report:

MRS. M. H., 65-year-old white woman, was admitted to the surgical service of the Long Island College Hospital on September 1, 1939, because of vomiting for four days and abdominal cramps for two days. She died on September 3, 1939.

The patient felt well until a year before admission when she noticed the onset of progressive anorexia and weakness. She also felt increasing fatigue and began to lose weight. The loss amounted to twenty pounds by the time of admission to hospital.

About two months before entry, she had an episode of vomiting, constipation and abdominal pain which lasted four days. This episode was succeeded by an increasing sense of fulness following the ingestion of food. There had been no change in bowel habits nor were tarry stools noted. There was no record of pain or jaundice.

Four days before admission, she abruptly began to vomit without associated pain. The vomiting continued at intervals until the time of admission and the vomitus was described as changing from a light color to a black. No blood was noticed. Two days before entry to the hospital, lower abdominal cramps set in, occurring intermittently with moderate severity. Constipation was present for three days. During this period the patient ate nothing and drank very little. This latter episode was similar in every way to the one which occurred two months previously.

A review of the patient's past history failed to reveal any additional relevant data.

Admission Findings:

B. P. 128/88

T. 99.6 P. 110 R. 24

The patient was having severe abdominal pain and retched frequently during the course of the examination. She was dehydrated and, though still obese, showed signs of recent weight loss. A few minutes after admission, she was observed to vomit a few ounces of dark, brown fluid. The tongue was dry and stained with blackish material. Virchow's gland could not be felt. The heart and lungs were normal. The abdomen was slightly distended and dulness was present in both flanks. There was no shifting dulness nor fluid wave. There was generalized tenderness but no muscle spasm. There was no palpable enlargement of the liver, spleen or kidneys. Peristalsis was normally audible. No abnormalities were found by rectal examination.

Laboratory Data:

THE hemoglobin was 94 per cent. There was a leukocyte count of 13,000 with 80 per cent polymorphonuclear leukocytes. The urine was normal, its specific gravity being 1.025. The blood urea was 145 mg. per 100 c.c., uric acid 4.5 mgm, creatinine 1.8 mg. The figures for the serum proteins, icterus index and blood sugar were not regarded as abnormal.

Figure I

Cholecystoduodenal Fistula

The admission diagnosis was carcinoma of the stomach with pyloric obstruction.

Course in Hospital:

SHORTLY after admission, the patient vomited 100 c.c. of dark red blood and, on the following day, there was another hematemesis of 120 c.c. Nothing save fluids was taken by mouth during this time. A few hours after the second hematemesis, the patient became comatose. The blood pressure remained at 120/80, the pupils were constricted and the deep reflexes were in abeyance. Later in the day, the right pupil became larger than the left and a positive Babinski was noted on the left. The lungs showed signs of increasing pulmonary edema. The temperature rose to 104.6 and the patient expired on the morning of September 3rd, 1939, after seven hours in coma.

Clinical Diagnosis:

THE acute affair which brought the patient to the hospital was characterized by vomiting for three days, abdominal cramps, constipation, generalized abdominal tenderness, and slight distention. These findings, and the history of a progressively increasing sense of fulness immediately following the ingestion of food, pointed to pyloric obstruction. The presence of frank blood in the vomitus suggested a gastric lesion. The most likely cause seemed to be carcinoma or ulcer. This patient's illness was of only one year's duration. There was a loss of weight and strength, which, in a patient of 65, made the diagnosis of carcinoma seem the more probable.

The azotemia suggested nephritis but the urine was normal and a casual specimen showed a specific gravity of 1.025. The azotemia was thus considered as of the prerenal type, due to hemorrhage, vomiting and dehydration.

The coma, the enlarged right pupil and the positive Babinski were thought to be consequent upon a cerebral thrombosis.

The final clinical diagnosis, therefore, was:

1. Carcinoma of the stomach with hemorrhage and pyloric obstruction.
2. Cerebral thrombosis.

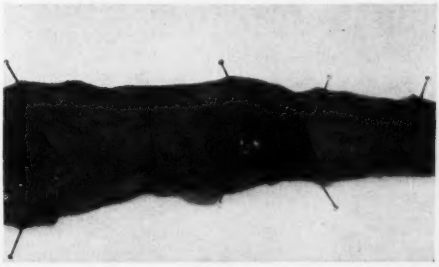


Figure II

Gallstone in Lumen of Ileum

Pathological Report:

THE proximal one-half of the small intestine was dark purple in color. It was moderately distended and congested. At the junction of its middle and proximal

thirds the duodenum was bound firmly to the mid-portion of the gallbladder by dense fibrous adhesions over an area approximately 3 cm. in diameter. When the intestine was opened a fistulous passage 1 cm. in diameter was found extending through these adhesions and connecting the lumina of the gallbladder and duodenum. Between this region and the pylorus the duodenum was so twisted upon itself as to cause a marked narrowing and a partial obstruction. The gallbladder contained two large partially-facetted mixed pigment and cholesterol stones measuring 2.5 and 3 cm. in diameter. They were much larger than the lumen of the cystic duct. There were in addition several smaller calculi. The hepatic and cystic ducts were patent. The common duct was dilated. The wall of the gallbladder was thickened and fibrous. Its mucosa was roughened and microscopic examination revealed evidence of chronic cholecystitis.

At the end of the dilated proximal half of the small intestine a gallstone 2.5 cm. in diameter was found firmly wedged in the lumen of the gut, causing obstruction. This stone was entirely similar to those in the gallbladder. Beyond this point the ileum was contracted and empty save for a small amount of bile-stained fecal fluid. The colon was not unusual save for the presence of small diverticula in its descending portion.

The stomach contained no tumor but it was dilated, its mucosa was congested and in it there were many petechial hemorrhages. Several gallstones, the largest of which was 1 cm. in diameter, lay in the lumen. The pylorus was neither hypertrophied nor stenotic.

THE lungs were the seat of an extensive bilateral bronchopneumonia. Only a mild degree of atheromatous change had occurred in the coronary arteries and there were no lesions in the myocardium or on the heart valves. No other noteworthy anatomical alterations were found.

The final post mortem diagnosis was:

Chronic Cholecystitis and Cholelithiasis. Fistula between Gallbladder and Duodenum. Intestinal Obstruction due to Gallstones. Bronchopneumonia.

Discussion:

INTESTINAL obstruction due to gallstones is an uncommon condition and the diagnosis is rarely made ante mortem. As a rule, the condition occurs three times more frequently in women than in men, most often in elderly women who give a history of previous biliary tract disease. In the usual case, the stone is from 1 cm. to 2.5 cm. in diameter. A stone of this size is too large to pass through the common duct. The stone, therefore, reaches the lumen of the intestine through a false passage formed by ulceration through the wall of the gallbladder and duodenum. The process of ulceration is usually associated with right upper quadrant pain and simulates an attack of biliary colic. Once the stone enters the lumen of the intestine, obstruction usually takes place in one of the two narrowest portions of the gastro-intestinal tract: the duodenum or the terminal ileum. Frequently, the stone first obstructs the duodenum for a day or two and then passes down to obstruct the terminal ileum. The patient may therefore present the picture of high intestinal obstruction followed later by evidence of lower intestinal obstruction. This is considered by Cope as characteristic of the course of gallstone obstruction of the intestine. Cope also points out that the ulceration of the duodenal wall is frequently associated with hematemesis. The hematemesis usually causes the clinician to suspect gastric ulceration, as in this case.

The patient presented at this conference did not go through the characteristic course of the gallstone obstruction syndrome, nor did obstruction take place at the usual sites. The patient gave no past history of biliary tract disease but rather one of progressive loss of appetite and weight so frequent in carcinoma.

The acute episode occurring two months prior to admission was probably on the same basis as the attack which brought the patient to the hospital, inasmuch as

—Concluded on page 221

Proceedings of the Research Society

OF THE LONG ISLAND COLLEGE OF MEDICINE

Hoagland Laboratory, January 18, 1940

CARDIAC LESIONS IN RABBITS PRODUCED BY A FILTRABLE VIRUS (VIRUS III)

JOHN M. PEARCE, M.D.

Department of Pathology
Long Island College of Medicine

Abstract

TWENTY-FIVE per cent of a group of 20 rabbits inoculated intravenously, intratesticularly, or intranasally with Virus III developed a myocarditis, endocarditis, or pericarditis. The characteristic Virus III intranuclear inclusion bodies are invariably associated with these cardiac lesions, and can be found not only in the inflammatory cells but also in the heart muscle fibers. If inoculation was preceded by cardiac puncture or by the intravenous administration of a large dose of gum acacia or pitressin the incidence of cardiac lesions rose to 87 per cent, 94 per cent and 46 per cent respectively and the lesions observed were much more severe and widespread.

Discussion:

Dr. Calvin C. Coulter.—

Several factors which have been important in bringing this work to a successful conclusion were not touched on by Doctor Pearce but should be at least mentioned. I refer to the bacteriologic control and the exclusion of bacteria as causative factors in the production of the lesions in the experimental animals, and the method of sectioning by which the four chambers of the heart could be studied in a single section. The lesions obtained by Doctor Pearce are certainly different histologically from those of rheumatic fever, but like the virus of that disease involve both valves and myocardium with resultant fibrosis. This brings up the interesting possibility that the fibrosis of the valves which seems regularly to precede the development of subacute bacterial endocarditis may be due to an unknown filtrable virus rather than to rheumatic fever itself, as is commonly believed. The work suggests similarly that the diffuse fibrosis of the myocardium frequently seen in the human heart results from infection by a virus, rather than from nutritional impairment in consequence of arteriosclerotic narrowing of the coronary vessels. Doctor Pearce's work is important for the interpretation which it may afford of the pathogenesis of these conditions.

The Research Society of the Long Island College of Medicine was formed for the purpose of presenting original work by the members of the staff of the Long Island College of Medicine.
Officers—Arnold H. Eggerth, President; Elliston Farrell, Vice-President; Dorothy Loomis, Sec.-Treasurer.

STUDIES ON THE ETIOLOGY OF PEMPHIGUS VULGARIS

Arthur W. Grace, M.D.
Department of Medicine
Long Island College of Medicine

Florence M. Suskind, M.S.
Department of Medicine
New York University College of Medicine

Abstract

AT the end of 1936 we began to search for the etiological agent of pemphigus vulgaris. We used the methods of the earlier workers and obtained the same negative results. It then appeared to us that there would be greater likelihood of success if the resistance of the experimental animal were lowered before inoculation by generalized irradiation with a relatively heavy dose of x-ray. Accordingly six mice which had received 400 r of x-ray, applied at one exposure to the entire bodily surface, were inoculated intracerebrally with 0.03 c.c. of bacteriologically sterile blister fluid. In three weeks two animals were very sick and were sacrificed. The brains of these animals were bacteriologically sterile on aerobic and anaerobic culture and were inoculated in a 40 per cent concentration into the brains of fresh, irradiated mice. The inoculated animals became sick in a shorter period of time than did the mice of the first passage, and their brains in turn were emulsified and inoculated intracerebrally into other irradiated mice. That procedure has been repeated at approximately weekly intervals until this particular strain of virus has now been passed through mice for over three years and for almost 200 consecutive passages.

It is not possible to maintain the strain in non-irradiated animals for more than three or four passages. Fewer animals become sick with each passage until in the end all remain well.

The virus is not pathogenic for rabbits or guinea pigs by any route. This fact proves that it is not identical with the viruses of vaccinia, rabies, lymphocytic choriomeningitis, or herpes. Owing to the impossibility of maintaining the virus in non-irradiated mice it is exceedingly unlikely that we are dealing with a spontaneous and hitherto undescribed virus disease of mice.

The virus has been obtained from the blister fluid of three cases and from the spinal fluid of one case of pemphigus vulgaris. Partial neutralization of the virus has been obtained with the blood serum of eight of fourteen cases of pemphigus vulgaris and of one of twelve controls. The control individual who possessed the neutralizing antibodies was a technician working with the virus.

Discussion:

Doctor Morris L. Rakieten.—

The experimental work presented by Doctor Grace substantiates his idea that bacterial free material derived from pemphigus bullae can produce in irradiated mice damage to the central nervous system. Mice so affected give positive evidence, as shown by motion pictures, and histological sections, of marked cerebral irritability, and very often die. It has also been possible to infect through serial passage other irradiated mice. The virus, according to Doctor Grace, has been shown to be different from lymphocytic choriomeningitis, herpes, and vaccinia. Four viruses have been isolated.

In South America, Japan, Central Europe, and in this country several investigators have also reported that from pemphigus blister fluid, cerebrospinal fluid, and the blood of pemphigus patients bacterial free agents have been isolated that can produce encephalitis in rabbits. All of these studies lend support to Doctor Grace's evidence concerning the viral etiology of pemphigus.

THE EMBRYONIC HEART AND DIGITALIS

George F. Paff

Department of Anatomy
Long Island College of Medicine

Abstract

By moving pictures it can be demonstrated that the normal embryonic chick heart at 48 hours of development exhibits all of the cardinal functional properties of cardiac muscle as seen in the adult. It can be further demonstrated that the embryonic heart under the influence of tincture of digitalis exhibits among other effects a block in transmission of impulses between the sino-atrium and the ventricle. This is true whether the heart be in situ or isolated. The time of appearance of block in the entire excised heart corresponds to the appearance of dropped beats in isolated ventricles, indicating that the tincture affects the ventricle primarily.

Experiments on isolated tincture-treated ventricles indicate that at different concentrations dropped beats occur earlier or later. Making use of this fact a curve was constructed in which the time of appearance of block was plotted as ordinate against five different dilutions of tincture of digitalis (Standard International Digitalis Powder, U.S.P. XI). Tyrode solution was used as diluent. 450 experiments were distributed among the following fractions of U.S.P. units: 1:100; 1:500; 1:1000; 1:1500; and 1:2000. Results of 10 unknown (kindly made by Dr. S. R. M. Reynolds), based on 10 experiments each, were as follows 81.9%; 95.9%; 71.0%; 90.0%; 106.3%; 82.8%; 100.0%; 110.5%; 137.6%; and 62.5%. Mean recovery was 93.9%. As expected, the percentage of error was decreased by using larger groups in assay. In two experiments using 30 ventricles each the results accounted for 92.6% and 100.3% of the digitalis present.

Other experiments were performed in which ionization of calcium in ventricles stopped by digitalis and digitoxin was effected. These experiments indicate that the visible effects produced by so-called lethal solutions of digitalis depend on the presence of the calcium ion; also that the visible effects can be greatly prolonged by keeping the level of the calcium ion low.

SPECIAL ARTICLE

—Concluded from page 218

the fistulous tract between the gallbladder and the duodenum was composed of old fibrous tissue which could not be ascribed to an inflammatory process only a few days old. This contracting of dense fibrous tissue surrounding the fistulous tract had caused such narrowing of the lumen of the duodenum as to produce partial intestinal obstruction at this point. The gallstone, itself, was impacted in the upper ileum, causing complete obstruction.

Conclusions:

HEMATEMESIS and signs of mechanical ileus in an elderly woman may be due to gallstone obstruction of the intestine.

References:

Cope, F.: *The Early Diagnosis of the Acute Abdomen*, 7th Edition, 1935, Oxford Medical Publications.

Rodney Maingot (Editor): *Postgraduate Surgery*, Vol. I, part II, pg. 1017, Appleton-Century Co., Inc.

Christopher, F.: *Textbook of Surgery*, 2nd Edition, 1939, W. B. Saunders Co.

ASSOCIATED PHYSICIANS OF LONG ISLAND

THE 42nd annual meeting, (the 125th regular meeting) of the Associated Physicians of Long Island was held in Brooklyn Hospital, Brooklyn, N. Y., with the annual dinner in the Montauk Club, Saturday, January 27, 1940.

Operative clinics at 10 A.M. were as follows:
Department of General Surgery,
Dr. Ernest K. Tanner & Staff
Department of Otolaryngology
Dr. Robert L. Moorhead & Staff
Department of Gynecology and Obstetrics
Dr. William Sidney Smith and Staff
Department of Orthopedics
Dr. Donald E. McKenna & Staff
12: Noon—Inspection of the hospital.
1: P. M.—Luncheon as guests of the hospital.
2: P. M.—Scientific session:

1. **Conservative Surgery in the Treatment of acute Osteomyelitis**
   By Dr. Ainsworth L. Smith.
   Discussion by Dr. Robert Barber.
2. **Thyrotoxicosis in Pregnancy**
   By Dr. J. Thornton Wallace.
   Discussion by Dr. Austin Johnson.
3. **Tendonitis of the Tendon of the Long Head of the Biceps Brachii Muscle**
   By Dr. Donald E. McKenna.
   Discussion by Dr. Frank S. Child.
4. **Carcinoma of the Larynx—Demonstration of Patients using Artificial Larynx**
   By Dr. Robert L. Moorhead.
   Discussion by Dr. Henry B. Smith.
5. **Diagnosis of Cardiovascular Syphilis An Analysis of Twenty Cases to Necropsy.**
   By Dr. Edwin P. Maynard, Jr.
   Discussion by Dr. Eugene Calvelli.

Executive Session:

The executive session was called to order by the president, Dr. E. Jefferson Browder, at 4 P. M. in Brooklyn Hospital. The minutes were approved as read. The chairman of the scientific committee, Dr. A. S. Warinner, announced that the full cooperation of the staff of Brooklyn Hospital resulted in the excellent program which preceded the executive session. A vote of thanks was extended to the staff and hospital administrators.

Dr. Chester Davidson presented the following candidates for active membership and their election was unanimous—Dr. Lawrence G. Bodkin and Dr. Richard H. Bennett of Brooklyn, and Dr. George H. Kittell of Jamaica and under suspension of the by-laws, Dr. Harry McGrath of Bay Shore and Dr. John Pepe of Brooklyn. In recognition of their long service in the Associated Physicians of Long Island, Dr. E. E. Cornwall, Dr. Binford Throne and Dr. Henry C. Courten were unanimously elected to emeritus membership.

A moment of silence was ordered by the president to honor the memory of members deceased during the past year:

Carl Boettiger of Flushing, died—March 2, 1939
Albert L. Voltz of Richmond Hill, died—March 27, 1939
George K. Meynen of Jamaica, died—April 7, 1939
Charles H. Goodrich of Brooklyn, died—May 6, 1939
P. Chalmers Jameson of Brooklyn, died—Oct. 27, 1939
Victor A. Robertson of Brooklyn, died—Dec. 29, 1939

Dr. Herbert Fett announced that the William Browning Prize would not be awarded for 1939. The action of the prize committee was approved by the association. The treasurer's report and that of the auditing committee were approved. The membership totaled 553 at the date of this meeting.

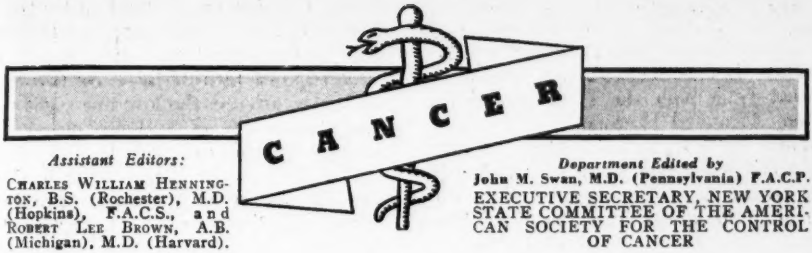
The nominees of the nominating committee were unanimously elected to office:

President	**John B. Healy of Babylon**
President-elect	**H. R. Merwarth of Brooklyn**
First Vice President	**Charles C. Murphy of Amityville**
Second Vice President	**H. S. Acken of Brooklyn**
Third Vice President	**Chester L. Davidson of Jamaica**
Secretary	**David E. Overton of Hempstead**
Treasurer	**Edwin A. Griffin of Brooklyn**

Dr. Chester L. Davidson submitted a report that an adequate printed directory of the by-laws and members with geographic classification could be produced for $50. The association agreed to make 800 copies under the direction of the Board of Directors.

The amount of the dues for 1940 was unanimously agreed at five dollars.

The annual dinner was the usual convivial affair with friendship as its keynote in the Montauk Club. The outgoing president, Dr. E. J. Browder, introduced his successor, Dr. John B. Healy, who made an address of acceptance earnestly expressing his appreciation of the honor conferred in his election. After dinner Commander Frank W. Ryan, U. S. N., of the Brooklyn Naval Hospital, described in words and pictures his experiences in Samoa.



Assistant Editors:
CHARLES WILLIAM HENNINGTON, B.S. (Rochester), M.D. (Hopkins), F.A.C.S., and ROBERT LEE BROWN, A.B. (Michigan), M.D. (Harvard).

Department Edited by
John M. Swan, M.D. (Pennsylvania) F.A.C.P.
EXECUTIVE SECRETARY, NEW YORK STATE COMMITTEE OF THE AMERICAN SOCIETY FOR THE CONTROL OF CANCER

SURVIVALS FOR FROM FIVE TO NINE YEARS OF PATIENTS TREATED FOR CANCER IN THE HOSPITALS OF ROCHESTER, N. Y.

LAST year[1] our follow-up system showed twenty-one patients treated in 1934 and living without recurrence for nine years. These have been transferred to the Ten Year survival list.[2]

We have to account for twelve cases which are now nine year survivals, thirty-two cases which are eight year survivals, thirty-nine cases which are seven year survivals, and fifty-two which become six year survivals. The condition of these patients is shown in Table I.

A patient with cancer of the breast, reported lost last year, is taken up again this year in the seven year group.

We add a case of cancer of the breast in a patient treated in the Genesee Hospital in 1930 to the nine year group, and a case of cancer of the kidney treated in the same hospital in 1933 to the six year group. So that we have surviving this year fourteen cases of nine year survival, twenty-six cases of eight year survival, thirty-three cases of seven year survival, and forty-five cases of six year survival.

This year, also, we add sixty-seven new five year survivals to our previous lists as follows: Acanthoma, 1; bladder, 2; breast, 27; cecum, 1; cervix, 10; colon, 9; kidney, 2; nose, 1; parotid gland, 2; prostate, 2; rectum, 3; sarcoma, 1; stomach, 1; testicle, 1; thyroid, 1; body of the uterus, 2. These patients were treated in 1934.

We invite particular attention to the survival of fourteen cases of cancer of the digestive tract: one of the cecum; nine of the colon; three of the rectum; and one of the stomach. Cancer of the digestive tract is the greatest problem in the cancer field, since, in 1938, 46.63 per cent of all deaths from cancer in the State of New York were reported from that system.[3]

The distribution of these cases obtained from the six active hospitals in the city is shown in Table I.

IN 1934 there were forty-six cases of cancer treated in Park Avenue Hospital; of these two are living at the end of five years (4.34 per cent). Forty-two cases were treated in St. Mary's Hospital; of these seven are living at the end of five years (16.66 per cent). Sixty-five cases were treated in the Genesee Hospital; of these four are living at the end of five years (6.15 per cent). Ninety-one cases were treated in the Rochester General Hospital; of these eighteen are living at the end of five years (19.78 per cent). Two hundred and seventeen cases were treated

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Reported at the Fifteenth Annual Meeting of the New York State Committee of the American Society for the Control of Cancer, held in Rochester, December 12, 1939.

in the Strong Memorial and Municipal Hospitals; of these thirty-three are living at the end of five years (15.20 per cent).

There is one duplication, a patient reported from both the Genesee and the Strong Memorial Hospital.

Since 1930 we have collected 365 cases of survival for five years after treatment for cancer of various organs and of different pathological characteristics. Two hundred and nine of these patients are still living: Ninety-one for more than ten years and 118 for from five to nine years. Of these 118 patients there are two cases of late recurrence (both in the eight year group) and one of a stump cancer following subtotal hysterectomy for cancer of the body of the uterus. The final results in the other 156 cases have been reported in the previous contributions.[4]

TABLE I

	To Be Accounted For	*Living*	*Dead*	*Lost*
Carcinoma of the Breast:				
1935 GROUP (9 YEARS)	6	6(3)	0	0
1936 GROUP (8 YEARS)	13	10	2(3)	1
1937 GROUP (7 YEARS)	*17	15	0	1
1938 GROUP (6 YEARS)	14	12(4)	1	1
Cervix:				
1936 GROUP	5	5(3)	0	0
1937 GROUP	6	4	0	2
1938 GROUP	3	3	0	0
Gastro-intestinal Tract:				
1935 GROUP	1	1	0	0
1936 GROUP	2	2	0	0
1937 GROUP	2	2	0	0
1938 GROUP	5	5	0	0
Male Genito-urinary Tract:				
1936 GROUP	2	2	0	0
1937 GROUP	4	4	0	0
1938 GROUP	4	3	0	1
Ovary:				
1935 GROUP	1	1	0	0
1938 GROUP	3	3	0	0
Body of the Uterus:				
1935 GROUP	4	4	0	0
1936 GROUP	8	7	0	1
1937 GROUP	2	1	0	1
1938 GROUP	13	10	1(3)	2
Miscellaneous Malignancies:				
1935 GROUP	2	2	0	0
1937 GROUP	7	7	0	0
1938 GROUP	10	9	0	1

(1) One with recurrence. (2) Two with recurrence. (3) Dead of other causes.
(4) One patient has developed a stump cancer.
* *One case transferred to the 8-year group.*

The committee of staff members of the hospitals reporting these cases is composed of the following: Genesee Hospital, Lyman C. Boynton, M. D.; Highland Hospital, William I. Dean, M. D., F. A. C. S.; Park Avenue Hospital, John M. Swan, M. D., F. A. C. P.; Rochester General Hospital, Don K. Hutchens, M. D., F. A. C. S.; St. Mary's Hospital, George R. Bodon, M. D.; Strong Memorial Hospital, Samuel J. Stabins, M. D., F. A. C. S. and Karl M. Wilson, M. D., F. A. C. S.

The histological slides have been reviewed and unanimously confirmed by a committee of pathologists consisting of Walter S. Thomas, M. D., Director of the

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TABLE 2

Five Year Survivals—1939

Rochester General Hospital

1. Acanthoma	Avery	8. Breast	Wooden	15. Parotid	Bullen
2. Breast	Hutchens	9. Breast	Prince	16. Rectum	Prince
3. Breast	Hutchens	10. Breast	Leonardo	17. Sarcoma of the Scrotum	Garlick
4. Breast	Hutchens	11. Cecum	Prince	*18. Uterus	Wooden
5. Breast	Stewart	12. Cervix	Quigley	19. Thyroid	Prince
6. Breast	Stewart	13. Colon	Prince		
7. Breast	Stewart	14. Colon	Prince		

** This patient was operated in 1933. The microscopic study was made only this year.*

Strong Memorial Hospital

1. Bladder	Staff	12. Breast	W. J. M. Scott	23. Colon	W. J. M. Scott
2. Bladder	Staff	13. Breast	W. J. M. Scott	24. Colon	W. J. M. Scott
3. Breast	Staff	14. Breast	T. B. Jones	25. Colon	Pearse
4. Breast	Staff	15. Breast	Stabins	26. Kidney	Staff
5. Breast	Staff	16. Cervix	Wilson	27. Parotid Gland	Staff
6. Breast	Staff	17. Cervix	Wilson	28. Prostate	Staff
7. Breast	Staff	*18. Cervix	Wilson	29. Prostate	Staff
8. Breast	Staff	19. Cervix	Wilson	30. Rectum	Staff
9. Breast	Staff	20. Cervix	Wilson	31. Stomach	Staff
10. Breast	Staff	21. Colon	Staff	32. Uterus	Wilson
11. Breast	Staff	22. Colon	Morton	33. Uterus	Wilson

** The diagnosis of this case was made at Genesee Hospital. The treatment (radium) was carried out at Strong Memorial Hospital.*

St. Mary's Hospital

1. Breast	Lane	3. Colon	Simpson	5. Kidney	Schanz
2. Cervix	Pfaff	4. Colon	Simpson	6. Nose	E. O'Brien
				7. Rectum	Simpson

The Genesee Hospital

1. Breast	Staff	3. Cervix	Staff
2. Cervix	H. G. Shepard	*4. Cervix	Staff

** The diagnosis of this case was made at Genesee Hospital. The treatment (radium) was carried out at Strong Memorial Hospital.*

Park Avenue Hospital

1. Breast	Hennington	2. Breast	Sampson

Highland Hospital

1. Testicle	Dean	*2. Breast	Wooden

** This patient was operated upon at the Rochester General Hospital for carcinoma of the breast in 1930. The other breast was removed in Highland Hospital in 1934 for cancer. There is no recurrence of either tumor.*

Private Case of Dr. A. P. Reed

1. Cervix. Treated at the New York State Institute for the study of malignant disease.

ASSOCIATED PHYSICIANS OF LONG ISLAND

Spring Outing of Associated Physicians of Long Island to be Held in Huntington, Tuesday, June 4.

THE Associated Physicians of Long Island will assemble in the Crescent Club in Huntington, Long Island, for their spring outing on Tuesday, June 4th. Members of the association from Suffolk County will be hosts and will present a scientific program in the club during the afternoon. Golf and tennis will be available for members, and there will even be swimming for anyone who wishes to hurry the season a little bit.

The president, Dr. John B. Healy of Babylon, L. I. assures the association of a good time when they convene in his home country of Suffolk and because the Crescent Club is an excellent place in which to be entertained, the attendance is going to be large.

The usual delightful dinner will be served at the Crescent Club at 6:30 P.M. —$3.50. Plan to enjoy this outing and dinner with us.

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ASSOCIATED PHYSICIANS OF LONG ISLAND

The following committees have been appointed by the president, Dr. John B. Healy.

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Chairman: C. C. Murphy, Amityville, L. I.; Vice-Chairman: W. T. Daily, 142 Joralemon Street, Brooklyn, N. Y.; L. H. Bauer, Hempstead, L. I.; R. H. Bennett, 52 Remsen Street, Brooklyn, N. Y.; J. H. Crawford, 178 Eighth Avenue, Brooklyn, N. Y.; C. A. Weymuller, 85 Pierrepont Street, Brooklyn, N. Y.; F. D. Maloney, Hempstead, L. I.; E. P. Dunn, 142 Joralemon Street, Brooklyn, N. Y.; A. M. Baker, Lindenhurst, L. I.; H. W. Draffen, 88-15 164th Street, Jamaica, L. I.

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Chairman: Wm. E. Butler, 44 Court Street, Brooklyn, N. Y.

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Chairman: D. E. McKenna, 80 Hanson Place, Brooklyn, N. Y.; Vice-Chairman: Thos. C. Newsom, Bellmore, L. I.; B. Seaman, Hempstead, L. I.; W. H. Jessup, Hollis, L. I.; H. Sturcke, 7615 Ridge Blvd., Brooklyn, N. Y.; T. L. Vosseler, 892 Park Place, Brooklyn, N. Y.; L. Feinier, 167 Joralemon Street, Brooklyn, N. Y.; E. Duhan, 120-11 103rd Avenue, Richmond Hill, L. I.; F. R. Surber, 9301 218th Street, Queens Village, L. I.; W. W. Gardner, Patchogue, L. I.; J. V. Hughes, Bay Shore, L. I.; J. E. Muncie, Bay Shore, L. I.; T. M. Winston, Sayville, L. I.

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PRESS REPRESENTATIVES

Chairman: T. B. Wood, 878 Park Place, Brooklyn, N. Y.; Frank Overton, Patchogue, L. I.; H. K. Bell, 857 President Street, Brooklyn, N. Y.; J. M. Scannell, Jamaica, L. I.; C. A. Hettesheimer, Hempstead, L. I.

Program of Associated Physicians of Long Island Spring Outing in Crescent Country Club, Huntington, L. I., June 4, 1940.

1. ***Comminuted fracture of second cervical vertebra —Report of a case.***
   Frank S. Child, M.D., Port Jefferson, L. I.
2. ***Catarrhal Vaccine as a Preventative of the Common Cold.***
   C. A. L. Campbell, M.D., Port Jefferson, L. I.
3. ***Indications for Caesarean Section.***
   Frank E. B. McGilvery, M.D., Smithtown Branch, L. I.
4. ***Report of a case of Recurring Pneumonia treated with Sulfapyridine.***
   Thomas F. Robinson, M.D., Port Jefferson, L. I.

Oral Pollen Therapy

S. C. SCHWARTZ (*Journal of Laboratory and Clinical Medicine*, 25:566, March, 1940) reports the use of oral pollen therapy in the treatment of patients with hay fever, in El Paso, Texas. For oral therapy a 1 per cent (1:100) pollen extract was employed, the extracting fluid consisting of 0.85 per cent sodium chloride with 5 per cent glucose and 15 per cent alcohol added; in some cases the strength of the extract used was 0.5 per cent (1:200). Treatment was begun with a dose of 1 drop of the pollen extract in half a glass of water twice daily (after morning and evening meals); the dose was gradually increased by 1 or 2 drops daily until symptoms were relieved. Patients were instructed to watch for "symptoms of an overdose"—an increase in hay fever symptoms within an hour, a mild urticaria or gastric distress or nausea. No severe reactions were noted in any case. In cases in which mild symptoms developed after a certain dose, the dosage was reduced, and if relief was not obtained, it was subsequently increased very slowly. The dosage that controlled symptoms in successfully treated cases varied from 2 to 17 drops of the extract twice daily, averaging from 4 to 6 drops two or three times daily. In most of the cases a mixture of equal parts of the extracts of the "three main pollen offenders" in the El Paso region was employed; a few were given one additional pollen extract; one required a fifth extract. A single pollen extract gave satisfactory results in only 3 patients. In the El Paso region the ragweed is not "of major importance" in the causation of hay fever, but it is noted that 3 ragweed-sensitive patients given oral treatment with a Western ragweed extract were completely relieved of symptoms when under exposure to the Eastern species. Of 65 patients treated with oral pollen therapy in 1937, 26 received complete relief and 31 had satisfactory relief, i.e., occasional symptoms during "dust storms" or under other excessive pollen exposure. These results are comparable to those obtained with the injection method of treatment. In the entire group of 154 cases so far treated by this method, results have been equally satisfactory. In cases in which results are good, it has been noted that relief is rapidly obtained—often within one to three days; in many patients a maintenance dose was established within a week. Oral therapy has "a wide margin of safety" and does not necessitate such frequent visits to the physician as injection therapy; it is of special value for persons unable to come to the office regularly for treatment, and also for those objecting to injections. The author does not claim that oral pollen therapy should entirely supplant the injection method, but that it should be given "a more extended use."

COMMENT

It is strange how history repeats itself. It is possible that we have a new suggestion for treating patient with hay fever with oral pol-

len therapy. One of the pharmaceutical houses had certain preparations made a year or so ago but, in corresponding with them, we were told that they were not prepared to make any promises. Over thirty years ago Schrepegill suggested the administration of pollens by using a pollen powder which could be snuffed into the nose. This soon fell into disrepute. However, if this new method becomes standardized so that it is endorsed by the majority of the medical profession, we shall feel that we have something that is really worth while. H.H.

Argyria Resulting from Intranasal Medication

B. L. BRYANT (*Archives of Otolaryngology*, 31: 127, Jan. 1940) emphasizes the danger of argyria resulting from the use of silver preparations for intranasal medication. A review of the literature shows a marked increase in such cases in the last five years. In one case, a man, forty years of age, had been treated for three months by intranasal application of silver preparations when first seen by the author. In this period daily applications had been made of a 10 per cent solution of mild protein silver in the form of Dowling packs; in addition the patient had treated himself with nose drops and intranasal applications of mild protein silver. On inspection with the postnasal mirror, the nasopharynx "looked as though it had been sprayed with soot," and the nasal mucosa was almost black. The fingernails and the conjunctival cul-de-sac of the lower eyelids also showed pigmentation. Microscopic examination of tissue removed from the anterior end of the right inferior turbinate showed silver in the form of grayish black granules widely distributed in the submucosal tissue, "particularly around and in the walls of the blood vessels and in the connective tissue." If silver medication had not been promptly discontinued generalized argyria would undoubtedly have developed in this patient. It was noted also that after several months the color of the nasal membranes had become considerably lighter, indicating that absorption of silver takes place directly at the site of application. In experiments on rabbits in which nasal instillations of various silver preparations were given three times daily, it was found that absorption of silver could be demonstrated by microscopic examination of the nasal tissues after four to six weeks of regular medication. After six to eight weeks' medication, silver was demonstrated in every specimen of nasal tissue studied, in the form of grayish black granules or clumps. In animals killed after eight weeks of medication the presence of silver was demonstrated by biospectrometric examination in the liver, spleen, skin and fur. From these studies, the author concludes that intranasal medication with silver preparations for even a few weeks is dangerous and "accomplishes nothing that cannot be accomplished safely and more efficiently by other means."

COMMENT

This timely article should warn many medical men that it is inadvisable continuously to insist upon tamponing the nose with packs saturated with a protein silver preparation. It has been our experience that any form of

silver is of little use unless it can be administered directly and surely one should not be foolish enough to allow packs to remain in the nose for an indefinite length of time and then advise the patient to use a silver preparation at home. I venture to say that the majority of nasal conditions can be more rationally treated by thorough cleansing and eliminating etiological factors. H.H.

Tuberculosis of the Nasopharynx

J. W. TRENIS (*American Journal of Medical Sciences,* 199: 312, March 1940) presents a review of recent literature which indicates that it is not rare to find tubercle bacilli in the sputum when the x-ray examination of the chest is negative for pulmonary tuberculosis. The tonsils, the lower pharynx and larynx have been suggested as the site of the infection in such cases. The author reports 2 cases in which the nasopharynx was found to be the source of the tubercle bacilli in the sputum. In the first case the patient was a girl of eighteen years with a history of severe colds and sore throats in the preceding winter; the tonsils had been removed two years previously and showed no evidence of tuberculosis. Tubercle bacilli were repeatedly isolated from the sputum, but monthly stereoscopic x-ray examinations of the chest failed to show the slightest evidence of pulmonary tuberculosis. The postcervical glands were enlarged and found to be tuberculous by biopsy. Because of the presence of postnasal discharge and absence of chest symptoms, the nasopharynx was carefully examined; a white exudate was observed on the adenoid area; the smear showed tubercle bacilli; the adenoid tissue was removed with the LaForce adenotome; histological examination of this tissue showed "numerous epithelioid tubercles," some with "caseation necrosis." Following this operation, the sputum became and remained negative, the postnasal discharge ceased; and the patient was free from severe colds and sore throat. The cervical glands cleared up promptly under treatment with the x-rays and a period of bed rest. In the second case, a diagnosis of Hodgkin's disease was made; no evidence of pulmonary tuberculosis was found, but the sputum was positive for tubercle bacilli; a study of the history of this patient showed a profuse postnasal discharge; an ulceration in the adenoid area was found that proved to be tuberculous. This patient was very ill and died within a short period; the case is cited "mainly to support the fact" that the adenoid area may be a source of bacilliferous sputum. In the first case, however, the adenoid area was apparently the only source of tubercle bacilli, and the postcervical adenitis secondary to the adenoid infection (since these glands drain the posterior nasopharyngeal area). Removal of the diseased adenoid tissue relieved the patient of symptoms and of infectious sputum, so that further treatment and isolation were no longer necessary. This indicates the importance of a careful examination of the posterior nasopharynx in patients with a sputum positive for tubercle bacilli and no evidence of pulmonary tuberculosis; this is especially important in patients with a postnasal discharge and involvement of the posterior cervical glands.

COMMENT

It is seldom that we review an article which presents something so definitely new that it is startling. All of us come across cases of healed tuberculosis of the lungs in which coughs and colds occur later on which seem to originate in the nose and throat. Seldom is one aware of the fact that the expectorated material may contain tubercle bacilli and that the focus may be found in the nasopharynx. We feel sure that any nose and throat specialist who reads this article will in the future take the trouble to have the expectorated material examined. H.H.

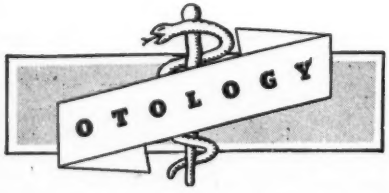
Technique of Radium Therapy in Cancer of the Larynx

I. LEVIN (*Mississippi Valley Medical Journal,* 62: 50, March 1940) describes his technique for radium treatment of cancer of the larynx of various types. In intrinsic cancer of the larynx, the operation of laryngofissure is done and the tumor or the major portion of it removed surgically. Radon capillaries are then inserted in positions parallel to the vocal cords; these radon capillaries are of gold and contain not more than one millicurie each; the number employed depends upon the extent of the tumor. With a tumor at the tip of the epiglottis, a part of the tumor may be removed

with the suspension laryngoscope—in some cases the whole tumor may be removed—and radon capillaries inserted. In extrinsic carcinoma of the larynx, a biopsy is done with the suspension laryngoscope, and radon capillaries inserted throughout the tumor. This endoscopic treatment is repeated about once a month. The insertion of radon capillaries in extrinsic carcinoma of the larynx is accompanied by the external application of radium to the tumor by means of a radium capsule and a specially designed intratracheal tube; most patients can tolerate the tube for at least two hours. At the same time a block of radium is applied to the skin at each side of the larynx. If the cervical lymph nodes show carcinomatous involvement, radon capillaries are inserted into the nodes before the external application of radium begins. In intrinsic cancer and cancer of the tip of the epiglottis, the insertion of radon capillaries is followed by external application of radium to both sides of the neck, and a course of Roentgen therapy. The author employs fractional doses for the latter, but he has found that without the use of radium it is difficult to deliver an adequate dose of radiation to the larynx by the Roentgen rays alone without injury to the skin or deeper tissues. He, therefore, employs Roentgen therapy only as an adjunct to radium in the treatment of cancer of the larynx.

COMMENT

Although we have no criticism to make of the use of radium therapy in cancer of the larynx, it is quite possible that as good results or even better results may be obtained by the Coutard method of x-ray therapy. The unfortunate part of the use of radium is that it is extremely difficult to administer and is quite painful to the patient. **H.H.**



Petrous Pyramid of Temporal Bone; Pneumatization and Roentgenologic Appearance

J. R. LINDSAY *(Archives of Otolaryngology,* 31: 231, Feb. 1940) presents a study of the pneumatization in the petrous pyramid. This study is based on serial sections of 100 temporal bones and on roentgenograms from the University of Chicago Clinics. The question of pneumatization is of clinical importance, because foci of suppuration in the petrous pyramid occur almost always in cases in which pneumatization is present. In the temporal bones studied, pneumatization of the superior (or posterosuperior) perilabyrinthine area occurred in 36 per cent; in half of these cases pneumatization occurred from the epitympanum only with no connection with the mastoid cells. This finding is of clinical importance, since in such cases a focus of suppuration may exist in the superior cells only, completely walled off from the mastoid by dense bone; this was the condition found in 3 of the author's fatal cases. Pneumatization in the posteromedial (or medial) perilabyrinthine area was demonstrated in 25 per cent of the specimens; this area is pneumatized from the mastoid, and suppuration "must reach it from the mastoid cells." Pneumatization of the intralabyrinthine cells was also found in 25 per cent of the specimens; in a large percentage this area was pneumatized from the mastoid, and in the majority the pneumatized area extended to the jugular bulb or round window niche. Pneumatization of the petrous apex was found in 21 per cent of the specimens; in two-thirds of these cases, this area was pneumatized from the anterior part of the tympanum, in the remainder only in the superior part of the apex as an extension from the superior angle. These various areas of pneumatization may be demonstrated roentgenologically in Stenvers' views, but less satisfactorily in pneumatization of the intralabyrinthine cells than in the other areas. The trans-

orbital frontodorsal projection is also of value for demonstration of pneumatization of the superior perilabyrinthine area; and the axial view for demonstration of pneumatization in the petrous apex; the latter has the advantage of showing both apexes on one exposure, and also is most useful for showing pneumatization of the lower part of the apex from the tympanic cavity or Eustachian tube. In clinical work, a careful clinical study usually establishes the diagnosis of suppuration in the pyramid, but the localization of the diseased area is often difficult; the roentgenological examination is of great assistance for this purpose. The decision in regard to the necessity for operation in acute suppurative disease of the pyramid also depends upon the clinical picture as a whole; the roentgenological findings give an indication for surgery only when they show evidence of "extension or increasing destruction of bone."

COMMENT

There is little comment that can be made upon this study. Fortunately the number of cases of mastoiditis which develop an infection of the petrous pyramid is small and, I venture to say that fewer operations on this portion of the mastoid will be done in the future.
H.H.

Studies of VIIIth Cranial Nerve of Man

A. T. RASMUSSEN *(Laryngoscope,* 50: 67, Jan. 1940) presents a study of the VIIIth cranial nerve in man with special consideration of the number of nerve fibers in the cochlear division. The specimens studied (40 cochlear and 37 vestibular nerves) were considered histologically normal. They were obtained from individuals from two to sixty years of age with no history of hearing deficiencies; in most of these cases, however, hearing tests with the audiometer had not been made during life, as in many cases death was sudden or accidental. Counting of the nerve fibers was done with a Whipple ocular micrometer in one ocular of a binocular microscope with the use of an oil immersion lens; sufficiently accurate results were obtained by counting "regularly placed samples" (every third field in every third row) of the cross section area, instead of counting all the fibers in each specimen. It was found that "the funicular pattern" of the VIIIth cranial nerve varies greatly, not only in different individuals, but also in different regions of the same nerve. In a considerable percentage of the specimens, two distinct trunks were found; one of these is apparently wholly vestibular, but the other, while predominantly cochlear, contains a variable number of vestibular fibers. Only a few unmyelinated nerve fibers are found in the VIIIth nerve; when they occur they are usually present in the neighborhood of blood vessels. A definite difference in structure of the cochlear and vestibular portions of the nerve is evident; the cochlear fibers are more uniform in size, the vast majority varying from 5 to 7 μ, and appear more compact; the vestibular portion shows a greater variation in size of the fibers—from 2 to 15 μ—and a larger proportion of large fibers, 10 μ and over, giving it a "more open appearance." The number of vestibular fibers was found to vary from 14,000 to 24,000 with an average of 18,500, which is probably too low on account of the irregular distribution of very small fibers among the larger fibers in different fields. The number of cochlear nerve fibers was found to vary from 24,000 to 40,000 with an average of over 31,000; this is a larger figure than given in fiber counts on human material reported in literature, but is in close agreement with the number of spiral ganglion cells found in independent studies; and these figures may be regarded "as the number of auditory conductors entering the brain of normal individuals." In comparison of the figures for a group of subjects below twenty-seven years of age, with a group forty-four to sixty years of age, the average number of cochlear fibers was found to be 2,200 less in the older group; still older subjects would probably show a greater loss.

Results of the Conservative Radical Operation or Atticoantrotomy

W. McKENZIE *(Journal of Laryngology and Otology,* 55: 75, Feb. 1940) reports the use of the conservative radical mastoid operation, or atticoantrotomy with

a meatal flap, in 59 cases of chronic suppurative otitis media that failed to clear up under non-operative treatment. In 21 cases, or 35 per cent, the ear was dry at least a year after operation; in 30, or 50 per cent, the ear was "moist", i.e., showed a slight mucoid discharge which was often unnoticed by the patient; in 5 cases the condition was unchanged and in 4 cases a subsequent radical mastoid operation was done. Hearing tests at the time of the follow-up examination showed the hearing to be good in 20 cases, or 34 per cent (conversational voice heard at 10 ft. or more); fair in 18, or 30 per cent (conversational voice heard at 4 to 10 ft.); and poor in 17, or 29 per cent. It is noted that the hearing was improved by the operation in 57 per cent of the cases. In 16 cases a cholesteatoma was found at operation, yet in these cases the results were the same as in the series as a whole, from which the author concludes that a cholesteatoma is not necessarily an indication for the radical mastoid operation. When operation is indicated in suppurative otitis media, the author considers that the conservative radical operation, or atticoantrotomy, rather than the radical operation is indicated if the hearing in the affected ear is good or fair; or if the hearing is poor but the drum nearly intact with a posterior or attic perforation. If the hearing is poor and the drum is absent or not well seen, the decision in regard to the type of operation to be done should wait until the middle ear is exposed at operation; a radical mastoid should be done only if the ossicles are found to be destroyed. The chief disadvantage of atticoantrotomy with flap is that the cavity is difficult to manage after operation, and that it needs "skilled dressing and prolonged treatment" for a month or six weeks.

COMMENT

We are glad to know that otologists are not sticking to the old Schwartze-Stacke operation. It is totally unnecessary when one finds that one has to eliminate a chronic infection of the ear to do a complete radical operation. The surgeon should use his common sense and handle the problem according to the condition he encounters. Of prime importance is to eliminate all infections make a cavity which will allow of a complete opening up of the mastoid cells, antrum, attic and middle ear. The Eustachian tube should be closed if possible in all cases. *H.H.*

Nature of Vitamin B and Its Components with Special Reference to Nerve Deafness

C. A. VEASEY, JR. *(Archives of Otolaryngology,* 31: 74, Jan. 1940) presents a review of the literature on the vitamin B complex, considering the chemical nature and physiological effect of the various fractions, human dietary requirements and clinical symptoms of deficiency. From this review he concludes that it is impossible "to formulate a definite clinical syndrome for mild vitamin B deficiency," and also that there is no laboratory procedure for the detection of such deficiency that is applicable in ordinary clinical practice. The therapeutic use of vitamin B must therefore be based "on an assumption made by the practitioner of the art of medicine rather than on a diagnosis substantiated by scientific medicine." On the basis of such an assumption he has employed a vitamin B complex made from rice bran in the treatment of cases of nerve deafness, or mixed deafness. In some of these cases a definite improvement in hearing was noted, as shown by hearing tests and as noted by the patient. In other cases no such improvement was noted. In 2 of these cases the oral therapy was supplemented by administration of thiamin chloride given by injection, since recent studies by Selfridge have indicated that thiamin rather than nicotinic acid is responsible for any improvement of hearing in nerve deafness. These 2 patients, however, showed no definite improvement. From his results in the cases treated, he concludes that there is a possibility that some cases of nerve deafness will be improved by vitamin B therapy, but at present there is no means of distinguishing cases that will respond to this therapy from those that will not.

COMMENT

The question of whether Vitamin B and its components will improve hearing in any type of case must be left to the future. We are so surfeited with literature on the subject that we are becoming skeptical. Within the past

few years numerous suggestions have been made for the treatment of deafness extending from the administration of prostigmin hypodermically to the extremely radical operation of opening up one of the semicircular canals. We have yet to find that there has been sufficient improvement in any case to warrant our giving a promise to a patient that his condition will be better. H.H.

Actinomycosis of the Internal Female Genitalia

E. L. HALL (*American Journal of Obstetrics and Gynecology,* 70: 524, March 1940) notes that actinomycosis of the internal female genitalia is of rare occurrence. In 1934, Cornell was able to collect only 71 cases from the literature; since then a few cases have been reported. In the author's case, the patient was a woman, fifty-four years of age. The chief symptoms were lower abdominal pain and vaginal discharge. Examination showed the uterus enlarged and limited in mobility, thickening and induration in the posterior cul-de-sac and left adnexal region, and an indefinite pelvic mass. After a trial of conservative therapy with prolonged hot douches, operation was found to be necessary. Bilateral salpingo-oophorectomy and subtotal hysterectomy were done, "with wide removal of the inflammatory process." Microscopic examination of the tissue removed showed extensive actinomycotic infection with sinus tracts and abscesses containing the actinomyces. The patient made a good recovery. The prognosis in pelvic actinomycosis is usually unfavorable. In most cases the condition is far advanced before treatment is undertaken. If the possibility of actinomycotic infection is kept in mind, "some of the long standing, peculiar, pelvic inflammatory processes may come to surgery sufficiently early to permit adequate removal of the diseased tissues."

COMMENT

Actinomycosis is no respecter of "color, race or creed." Any organ or tissue of the body is liable to its inroads. Actinomycotic vulvovaginitis is rare and certainly actinomycosis of the internal genitalia must be much more rare. We have never seen a case of the latter but the diagnostic acumen and excellent surgical judgment of the author are most commendable. Early radical operative removal seems to offer the only hope of cure. This is certainly true of actinomycosis of the external genitalia. H.B.M.

Vaginal Acidity in Late Pregnancy and Its Relation to the Vaginal Flora

R. E. TRUSSELL and R. F. MacDOUGAL (*American Journal of Obstetrics and Gynecology,* 39: 77, Jan. 1940) report a study of the vaginal acidity in relation to the vaginal flora in 200 pregnant women shortly before term. For the study of the vaginal acidity the glass electrode technique for determining the hydrogen-ion concentration was employed; with this technique the pH can be obtained at any level in the vagina desired. In the cases studied it was found that the acidity of the vagina (in late pregnancy) is highest in the middle portion of the vagina and somewhat less in the region just inside the introitus, while the reaction is alkaline or only slightly acid at the cervix and in the upper vaginal fornices. In the gram-stained spreads of the vaginal discharge in these 200 cases, no gram-positive rods were found in 29 cases; however, in 24 of these cases gram-positive bacilli were obtained in culture and identified as Döderlein bacilli in 18 cases. Yeast-like fungi were cultured from 68 patients (34 per cent), usually from the midportion of the vagina. *Trichomonas vaginalis* was cultured from 23 patients (12.1 per cent); this is a definitely lower incidence than when specimens for culture are taken from the upper vagina alone. All of the variations observed in the vaginal flora "cannot be explained by alterations of the vaginal acidity," the authors note. However, the variations in acidity in the middle vagina "correlate roughly" with the type of vaginal flora and

apparently with the occurrence of the Döderlein bacilli. The monilia, which grow in acid discharges, are most frequently cultivated from the middle vagina, the trichomonads, which are favored by a less acid reaction, most frequently from the upper vagina near the cervix. The presence of these organisms in this group of patients did not cause symptoms.

COMMENT

The chemical status of the vagina—acid or alkaline—has a very great deal to do with the growth of vaginal flora and bacteria. Clinicians have long recognized the fact that the mucous membrane of certain parts of the vagina—upper, middle and lower areas—is attacked by different species of flora and/or bacteria. This is true in the nonpregnant as well as in the pregnant. The observations made in this study by the authors add materially to our knowledge, both diagnostic and therapeutic, for with accurate data of this type, we are less likely to "flounder" in the treatment. H.B.M.

Gärtner's Duct Lesions of the Cervix

S. A. WOLFE *(American Journal of Obstetrics and Gynecology,* 39: 312, Feb. 1940) notes that Gärtner's duct represents the persisting distal segment of the mesonephric or Wolffian duct and its presence in the adult female is a "phylogenetic anomaly." Persistence of the duct *in toto* is very rare, and the presence of rests of the duct in specimens of the cervix obtained by amputation is also rare; in 1413 such cervical specimens at the Gynecological Laboratory of the Long Island College of Medicine, normal remnants of Gärtner's duct, were found in only one instance. This is due to the fact that rests of the duct are most frequently found in the supravaginal cervix above the level where amputation is performed. Two cases of adenomatous hyperplasia of Gärtner's duct were found in this series of cervical specimens; the lesion of the duct in these cases was only a laboratory finding; it had no relation to the symptoms or the lesion for which cervical amputation was done. One case of papillary adenoma, of Gärtner's duct origin, has been observed; the chief symptoms at the time the patient was first examined were constant pain in the right lower quadrant and vaginal discharge. At operation three nodules were removed from the muscular coat of the supravaginal cervix, and gold radon seeds inserted into the bed of the nodules. Histological examination showed "Gärtner's duct adenoma." The patient has been under observation for five years; she has been practically free from symptoms and has refused further treatment, but repeated examinations have shown "a slow but progressive spread" of the nodules.

Ovarian Dysmenorrhea

O'DONEL BROWNE *(Journal of Obstetrics and Gynaecology of the British Empire,* 46: 962, Dec. 1939) has found that if dysmenorrhea is of purely ovarian origin, the pain occurs in two or three premenstrual days, rarely persists after onset of the flow and may disappear some time before the flow begins. The pain is generalized in the lower abdomen, of the continuous, dull "dragging" type, occasionally producing nausea. It can be reproduced by pressure upon one or both ovaries during bimanual examination. In severe cases of dysmenorrhea—cases in which the pain is so severe that it interferes with the work or normal activity of the patient every month—the routine general examination is completed by accurate palpation of the ovaries and the passing of a uterine sound. The sound can be employed in girls, if passed gently and slowly, without either rupturing the hymen or causing severe pain; local anesthesia of the hymen may be employed in some cases. The sound is introduced through the internal os and the point moved upwards and downwards and from side to side; the exact nature and location of the pain produced by this procedure and by ovarian compression are noted and compared with the typical menstrual pain. It is usually possible to determine in this way whether the dysmenorrhea is of "uterine origin, ovarian origin, or partly due to ovarian and partly due to uterine stimulation." In 84 cases of severe dysmenorrhea, 17 were diagnosed as primarily of ovarian origin and thus suitable for treatment by bilateral ovarian denervation. One of these could not be followed up after the operation. Of the remaining

16 patients, 10 regard themselves as completely cured; they suffer no or only slight discomfort and do not have to interrupt their work or activities at the time of the menstrual period. These patients probably are examples of "true ovarian dysmenorrhea." In all these cases the pain was typically premenstrual. Of the 6 patients who were not cured by the denervation operation, 4 have considerably less pain than before, but show gross pelvic lesions not diagnosed before operation; the other 2 patients in whom no gross pelvic lesion is present "appear to have been wrongly chosen for ovarian denervation alone and the degree of uterine pain underestimated." It is noted that in these cases the premenstrual pain was not so marked as in the cases successfully treated by ovarian denervation. The operation of bilateral ovarian denervation caused no menstrual irregularities; 2 of the 10 women successfully treated have since married and given birth to normal healthy infants.

COMMENT

Ovarian dysmenorrhea has always been most difficult to diagnose. How can one tell whether or not premenstrual pain is ovarian? We have always assumed that it probably was, but when what was thought to be appropriate therapy failed to give relief, we wondered if the assumption was correct. Any method, therefore, that will help to clarify this problem is worthwhile. The author's method "reads well" but I am not sure of its clinical applicability. There must be a very large degree of the "personal equation" element, on the part of both patient and physician implicated in any such diagnostic measure. Once the correct diagnosis is established, the operation of denervation for ovarian dysmenorrhea is certainly the correct one. We have had a limited experience and feel very enthusiastic about our end-results. Do not, however, perform this operation except as a last resort. No laparotomy should be recommended until all palliative measures have failed. H.B.M.

Treatment of Trichomonas Vaginalis Vaginitis with Sodium Perborate

E. C. SMITH *(New Orleans Medical and Surgical Journal,* 92: 510, March 1940) reports the treatment of a small series of cases of *Trichomonas vaginalis* vaginitis (14 cases) with sodium perborate. The patient is first examined carefully with special attention to the possibility of any foci of infection in the bladder, cervix, Skene's and Bartholin's glands or rectum, as well as in the vagina. The vaginal secretions are tested with litmus paper; if the reaction is alkaline, a douche of lactic acid solution (U.S.P., one dram to one quart of water) is employed, to render the reaction slightly acid. The vagina is then gently swabbed with a cotton pledget, unless this procedure "proves too painful." One capsule, containing 1 gm. of sodium perborate, is then inserted deep into the posterior vaginal fornix with an instrument or with the fingers (rubber-gloved). The capsule may be lubricated with K-Y jelly. The patient is then instructed to insert a capsule herself, early each morning; and also to take a vaginal douche of sodium perborate (15 gm. to one quart of luke-warm water) at bedtime; the douche is given slowly with the patient in the reclining position. If "severe burning" in the vagina results from the treatment the patient is instructed to take a douche as prescribed and report at once to the office. In such case the dose of sodium perborate may be decreased to 0.5 gm. per capsule. The patient is also instructed to refrain from sexual intercourse and to restrict all her activities. The vaginal smear will usually be negative for trichomonads two to four days after the sodium perborate treatment is begun; the treatment is continued for ten days after the first negative smear is obtained. Vaginal smears are examined immediately after the next three menstrual periods, and if all are negative, the patient is considered cured. Of the 14 cases reported, all were cured, the average duration of treatment being twelve days. Only one—whose treatment was not so closely supervised as in the other cases—showed a recurrence; this cleared up promptly under a second course of treatment. Because of the excellent results obtained in this first series of cases with the sodium perborate treatment, the author is now using the same treatment in a larger series of cases of *Trichomonas vaginalis* vaginitis in his service at the Charity Hospital, New Orleans.

COMMENT

When we have a multiplicity of methods of treatment we have no specific form of

therapy. This certainly holds true in the case of Trichomonas vaginalis vaginitis. The number of therapeutic agents and methods of application are legionary for this form of vaginitis. We have used many different methods in these cases and find that almost any acceptable method is a good one, provided the physician is thoroughly acquainted with the details of said method. We have not used the sodium perborate method as outlined by the author in his clinic but we have no doubt that it is a very excellent method. Your commentator would like to know how to prevent recurrences of trichomonad vaginitis? Also from whence do the trichomonads come after apparent eradication? Nice problems—for the research worker. H.B.M.

Treatment of Metromenorrhagia with Testosterone Propionate

W. C. STURGIS and associates at Johns Hopkins University *(American Journal of Obstetrics and Gynecology,* 39: 102, Jan. 1940) report the use of testosterone propionate in the treatment of 14 cases of metromenorrhagia. Testosterone propionate was employed because it has been found that it acts on the myometrium, inhibiting its rhythmic intermittent contractility, and also on the myometrial elements, reducing the flow of blood in the myometrium; thus the blood flow to the endometrium is diminished, reducing the uterine bleeding. In the 14 cases, 17 endometrial biopsies showed hyperplasia in 6 instances, secretory type in 3, interval, non-secretory in 7 and chronic endometriosis in one; one patient showed a hyperplasia on 2 occasions and an interval, non-secretory type on another; and 2 showed a secretory endometrium at one time and an interval non-secretory type at another. In all the cases treated it was found that bleeding could be materially lessened by giving a total dosage of 10 to 30 mg. of testosterone propionate by subcutaneous injection; injections were given at intervals of two to four days. In order to stop the bleeding entirely a larger dosage was required, up to 120 mg., but usually 40 to 60 mg. When the flow was "very profuse and free," the initial dose of the testosterone was given by intramuscular injection for more rapid effect; as a rule subcutaneous injection was employed for its "more effective per-dose action." Testosterone may be employed prophylactically in the week or two preceding the onset of menstruation; if the endometrium shows hyperplasia in the premenstrual period, a larger dose is required than if a secretory or interval, non-secretory picture is present. In these cases, no ill effects of the testosterone in the dosage used were observed; "the only possible sign of defeminization" was the loss of libido in 2 patients.

COMMENT

The empirical treatment of the metromenorrhagias in general has never been always successful. Operative and/or irradiation therapy have been resorted to. Nowadays, however—thanks to such studies as the one under discussion—we are more successful in "regulating" the menstrual function. Your commentator has not had sufficient personal experience with testosterone propionate to pass upon its clinical efficiency but judging from reliable reports he does not hesitate to recommend this type of treatment in suitable cases. Be as sure as you can be of the cause of the abnormal bleeding before beginning any endocrine therapy and success will more often crown your efforts (this epigram did not emanate from Confucius!). H.B.M.

Pyelitis of Pregnancy and Pre-Eclamptic Toxemia

R. D. MUSSEY and S. B. LOVELADY *(American Journal of Obstetrics and Gynecology,* 39: 236, Feb. 1940) report a study of 117 cases of pyelitis of pregnancy and 163 of acute hypertensive toxemia of late pregnancy (pre-eclampsia and eclampsia) with a view to determining whether there is any etiological relationship between pyelitis of pregnancy and pre-eclampsia. In the 117 cases of pyelitis of pregnancy, the pyelitis occurred during pregnancy in 92 cases, in the puerperium in 25 cases. In 3 cases the pyelitis, occurring during pregnancy, was followed or accompanied by acute toxemia; a fourth patient in this group died

with acute renal failure, probably associated with cortical abscesses. Thirty women who had pyelitis of pregnancy were under the authors' observation in a subsequent pregnancy; only 2 developed evidence of toxemia in this pregnancy; these 2 patients had both developed toxemia in the former pregnancy. Of the 163 cases of pre-eclamptic toxemia, none gave a history of pyelitis prior to pregnancy; 6 developed pyelitis in the puerperium. This corresponds with the incidence of pyelitis in pregnancy and the puerperium reported by the majority of other observers. If treatment was instituted promptly in pyelitis of pregnancy, the majority of the patients responded "with reasonable promptness" and showed no evidence of subsequent renal disease. The results in this series of cases indicate that acute pyelitis of pregnancy, when treated promptly, "is not prone to cause pre-eclamptic toxemia or eclampsia, and that following one attack of acute pyelitis of pregnancy, the majority of such women do not exhibit symptoms of residual renal damage."

Comment

The etiology of the toxemias of pregnancy is still among the "unknown" in obstetrics. Pregnancy has a deleterious effect upon some individuals—the brunt of which falls presumably upon the kidneys and/or liver; whereas in others no such effect is manifested. Why is this? Many researchers working many years have been trying to solve this "riddle". The present piece of work is a very excellent example of a vast variety of probable—but not proven—causes of the toxemias of pregnancy. While their observations were negative they nevertheless are important since it oftentime is just as important to know negative facts as positive ones. Every practitioner would do well to read and re-read this article. Do it! You will be better able to manage your next case of this type. H.B.M.

Detection of the Rupture of Fetal Membranes with the Nitrazine Indicator

T. ABE *(American Journal of Obstetrics and Gynecology,* 39: 400, March 1940) describes a test for rupture of the fetal membranes, using a new indicator dye, nitrazine (sodium dinitrophenylazonaphthol disulphonate). The applicator saturated with the dye is introduced through a sterile glass tubing, to a point near the external os where the amniotic fluid should be at its greatest concentration. This technique is sterile and also avoids the effect of urine and antiseptic solutions on the dye. The test depends upon the change in the vaginal pH produced by rupture of the membranes; if the pH is increased to 6.5 or above, indicating rupture of the membranes, the change in color of the nitrazine indicator is more complete than that observed with the bromthymol blue indicator previously employed for this test. The change with the nitrazine indicator is definite from yellow or green to a bluish shade when the membranes are ruptured. In 176 obstetrical cases in which the nitrazine and bromthymol blue indicators were used simultaneously the two tests showed practically the same degree of accuracy in positive cases, i.e., where the membranes were ruptured; but the nitrazine test gave a definitely higher percentage of correct results in negative cases, where the membranes had not ruptured (96.2 per cent as compared wth 86.6 per cent.). No postpartum infection occurred in any case in which the technique described was used.

Comment

There are times when it is difficult, yet important, to know whether or not the fatal membranes have ruptured. This is particularly true if cesarian section is contemplated or indicated after a test of labor. We are certain that morbidity and mortality in cesarian section gradually increase in proportion to the length of time the membranes have been ruptured. Any method, therefore, that is harmless but accurate is highly desirable. The author describes a new method using the nitrazine indicator which apparently is very accurate. We have used bromthymol blue as an indicator (King) in 161 patients with a 94.7 percentage accuracy. The nitrazine dye used by Dr. Abe seems to be more accurate than the bromythmol blue indicator, the former giving 96.2% accuracy as against 86.6% with the latter. Our results were 94.7% accurate with bromthymol blue. We recommend either of these methods and would suggest that every physician doing obstetrics acquaint himself with the technic. It pays to be prepared! Knowing whether or not the membranes have ruptured (and when possible how long) may save a mother's life when operative procedures must be done as a last resort. H.B.M.

Endocrinologic Aspects of Primary Uterine Inertia

W. S. SMITH *(Brooklyn Hospital Journal,* 2: 25, Jan. 1940) reports 2 cases of primary uterine inertia, in which mild, ineffective labor pains continued for hours after rupture of the membranes (spontaneous in one case, artificial in the second). The pelvic condition, the size and position of the child were normal in both cases. As recent investigations have shown that such cases of primary uterine inertia are of endocrine origin, and may be due to failure of the pituitary to produce sufficient hormone, pituitrin was given in small divided doses to stimulate the uterine contractions. The first patient was given thirteen injections, the first two, 2 minims each, the next four, 3 minims each (every half hour) and after a longer interval seven injections of 4 minims each. In the second case, 3 minim doses were given at half hour intervals "for several hours." In both cases, this resulted in regular, efficient labor pains; the first patient was delivered with low forceps, the second without instrumentation. In the first case pituitrin was also given in the third stage as a prophylactic against hemorrhage, as the uterus showed lack of contractile power. In the second case the third stage was entirely normal. In both cases, the child was normal, and the puerperium uncomplicated.

COMMENT

Uterine inertia remains the bugaboo of the obstetrician. Nothing in obstetrics bothers your commentator more than primary uterine inertia. These cases "wear me down". Primary uterine inertia, no doubt, as the author points out, is of endocrine origin—that is, pituitary. In this case, of course, pituitrin should be indicated. But we believe and teach that pituitary extracts (pituitrin and others) are very dangerous when the baby is still in the uterus. We have seen several ruptured uteri as result of pituitrin—yes, 2 or 3 minimum doses—and therefore hesitate to use it in primary uterine inertia. Certainly we would hospitalize such a patient and administer the pituitrin in very small doses (2 - 3 minimum doses) under constant personal observation, keeping in mind the possibility of excessive sensitivity to the drug. The so-called "nasal" method may be used and indeed is safer, because once you have given a hypo of pituitrin nothing can be done if the action is more severe than you anticipated, whereas with the nasal method one has only to withdraw the cotton pledget soaked in pituitrin and no further absorption can take place. This warning should be remembered—pituitrin is a dangerous drug to give while the baby is within the uterus, no matter what dosage is used; if you decide to give small doses stand by until its immediate effects are ascertained; if impending rupture of the uterus is feared, anesthetize your patient immediately for 10 to 15 minutes and, well—you will not try it again—at least in the same case. ***H.B.M.***

Placental Transmission of Sulfanilamide and Its Effects upon the Fetus and Newborn

H. SPEERT *(Bulletin of the Johns Hopkins Hospital,* 66: 139, March 1940) reports experiments on pregnant rats that were given sulfanilamide in daily dosage insufficient to cause any toxic symptoms in the mother. The drug was found in equal concentration in the blood of the mother and in the blood of the newborn, indicating that sulfanilamide is transmitted through the placenta. In comparison with a group of controls given the same diet throughout pregnancy, but not given sulfanilamide, intra-uterine death of the fetuses occurred more frequently in the sulfanilamide group; the size of the litter was less; the postnatal mortality of the young was higher; the birth weight of the young was lower, and there was a definite stunting of growth. The sulfanilamide fed mothers showed no signs of malnutrition. The author concludes that "until further observations have been made of the effects of sulfanilamide on the human fetus, the drug should be administered with extreme caution during pregnancy."

COMMENT

Everybody is doing it—what? Giving sulfanilamide. The enthusiasm of some clinicians seems to have no limit. We hesitate to say "out loud" why this is true. Draw your own deductions—if you practice medicine according to the Golden Rule. Sulfanilamide seems to be the most efficacious chemical yet devised by scientists in combating certain types of infection but great harm has been done by the improper use of this therapeutic agent by the over-enthusiastic members of our profession. We certainly can agree with the author when he says "until further observations have been made of the effects of sulfanilamide on the human fetus, the drug should be administered with extreme caution during pregnancy." ***H.B.M.***

Measurements of Uterine Contractions In Late Pregnancy

D. P. MURPHY *(Surgery, Gynecology and Obstetrics,* 70: 129, Feb. 1, 1940) notes that a study of uterine contractions in late pregnancy but prior to labor is of interest in relation to uterine contractions at the time of labor. Records of uterine contractions have been made in 5 women in the last two months of pregnancy, using the Lóránd tocograph; the records were made in the patient's home and at the same time of day an average of three times a week for three to eight weeks. It was found that the general character of the uterine contractions tended to follow the same pattern in each patient, but that the "patterns" of the different patients varied widely. The average frequency of contractions was 11.1 $\pm$ 6.0 per hour, with a variation of from 0 to 38 per hour. The height of the average wave produced by a uterine contraction was 3.2 $\pm$ 2.2 millimeters, varying from 0.1 to 16.2 millimeters. The average duration of the contractions was 85 $\pm$ 61 seconds, varying from 1 second to 11 minutes and 51 seconds. Fetal movements were also recorded by the instrument and appear in the records as sharp upward "thrusts," easily distinguished from the slower waves of uterine contractions. The patients were conscious on the average of only 47 per cent of the uterine contractions; one patient was conscious of 75 per cent of the recorded contractions, another of only 14 per cent. As labor approached, the records showed an increase in strength, duration and frequency of uterine contractions, in the percentage of contractions felt by the patient, and in the tension of the uterus. A marked increase in all these factors except "frequency" was observed in the week or ten days immediately preceding labor.

COMMENT

Over the past 100 years, various and sundry methods have been employed in measuring the strength and duration of uterine contractions. Every woman has her own type of contractions; likewise the later in pregnancy, i.e., the nearer to term, the greater all the "factors implicated in uterine contraction" become, except as regards frequency. Frequency, of course, is intensified during labor. These observations are most interesting—but, what we would rather know is, what initiates uterine contractions with the onset of labor? We sincerely hope Dr. Murphy will tackle this problem in the near future as assiduously as he has other important problems relating to obstetrics and gynecology. ***H.B.M.***

EDITORIALS

—Concluded from page 202

affiliated school, were things upon which lay tinkerers laid their drab hands, with inevitably faulty consequences, one of which has been a state of affairs tending to justify the charge that medicine is not serving well all of the people—as it once did, but creating a specializing class that knows more and more about less and less.

We venture to submit at this point the thought that there has never been any interference with fundamental medical affairs in this country by laymen that has smelled altogether good and not been potentially poisonous. We have seen what the political chiropractor, so to speak, can do with government, and what economic chiropractors can do with financial conditions; but we are not in the habit of thinking of lay tinkerers with medicine in the light of what they really are—social chiropractors.

There is something paradoxical about an educational system which permits the spawning of vast hordes of weird healers at the same time that it turns out streamlined practitioners limiting themselves to the right eye, or the left ear, or the median lobe of the prostate.

What shall we suffer next at the hands of some schoolteacher, or even house painter, not in any sense of our own guild?

—Concluded from page 225

Monroe County Laboratories; Istvan Gaspar, M. D., Director of the Rochester General Hospital Laboratories; and George R. Bodon, M. D., Director of the Laboratory of St. Mary's Hospital.

References

(1)—*Medical Times and Long Island Medical Journal*, May, 1938. 66:246.
(2)—*Ibid.* April, 1940. 68:179.
(3)—*Annual Report of the New York State Department of Health*, 1938.
(4)—*Medical Times and Long Island Medical Journal*, July, 1932. 60:218; June, 1933. 61:179; March, 1934. 62:81. *New York State Journal of Medicine*, July, 1935. 35:731. *Medical Times and Long Island Medical Journal*, April, 1937. 65:193; May, 1937. 65:253; April, 1938. 66:192; May, 1938. 66:246; February, 1939. 67:75; March, 1939. 67:125.

ROENTGEN RAYS FOR FURUNCLES AND CARBUNCLES

RADIOTHERAPY has a wide field of extreme usefulness as an adjuvant to surgery in the treatment of acute and chronic inflammatory conditions, especially of furuncles, carbuncles, and other pyrogenic infections. In furuncles of the lip, face and nose, in carbuncles of the diabetics, the effect of the rays is oftentimes life-saving. In other cases of carbuncle or furuncle, the roentgen treatment alleviates and shortens the entire course of the disease.

—*Ernst A. May, M.D.*
J. Med. Soc. N. J., Jan., 1940.

PUERPERAL INFECTION

RISE of temperature in the days or weeks after confinement awakes peculiar apprehension. Puerperal infection may be of any degree, but the worst is always feared. Unless another source of morbidity can be proven, the generative tract must be assumed to be infected. Absence of symptomatology and of localizing evidence does not rule out endometritis or even parametritis.

—*Robert A. Mackenzie, M.D.*
J. Med. Soc. N. J., Jan., 1940

EXPLOSIVE ANESTHETICS

ETHER is no less an explosion hazard than are other explosive agents. Given by open drop the inflammable ether vapor is along the floor and may be anywhere in the room. Employing closed methods of anesthesia the explosive atmosphere is limited to within a few inches of the face mask. Statistically, explosions are the least hazardous of anesthetic complications. The dangers from asphyxia, acute or carried along in a subacute form throughout an anesthesia, are infinitely more important.

—*Meyer Saklad, M.D.*
Rhode Island Med. J., Jan., 1940.

TEST BY NUMBER

SO far as medicine has risen from superstition to science, progress has been made over a way mapped by hard-gained experience, but the shortest road has always been found as a result of statistical examination of the phenomena which have been encountered along the way. Scientific medicine had its beginning with the statistical study of disease and its treatment, as introduced by Louis of Paris. He proved mathematically that venesection, the routine treatment of the time for pneumonia, not only was of no benefit but was distinctly injurious and responsible for many deaths. Holmes followed with his statistical study of puerperal fever, which shortly banished this curse from lyin-in hospitals. Test by numbers is responsible for the use of the ligature rather than the cautery to staunch hemorrhage, for the prevention of small pox by vaccination, for the control of diphtheria by toxin-antitoxin. The list can be extended without end.

—*Editorial*
Rhode Island Med. J., Jan., 1940.

MEDICAL BOOK NEWS

• *All books for review and communications concerning Book News should be addressed to the Editor of this department, 1313 Bedford Avenue, Brooklyn, N. Y.*

Edited by Alfred E. Shipley, M.D., Dr. P.H.

The Care of Human Joints

THE SYNOVIAL MEMBRANE AND THE SYNOVIAL FLUID WITH SPECIAL REFERENCE TO ARTHRITIS AND INJURIES OF THE JOINTS. By David H. Kling, M.D. Los Angeles, Medical Press, [c. 1938]. 299 pages, illustrated. 8vo. Cloth, $5.00.

THIS comprehensive monograph on *Synovial Membrane and Synovial Fluid* cannot be too highly recommended to all those who have to do with the care and observation of human joints.

The book is divided into three parts, first part the synovial membrane, second part the synovial fluid, third part the special pathology of joint effusions.

The text consists of some 260 pages, closely written, profusely illustrated and with many charts.

J. C. RUSHMORE

Cantarow & Trumper's New Edition

CLINICAL BIOCHEMISTRY. By Abraham Cantarow, M.D. and Max Trumper, Ph.D. Second edition. Philadelphia, W. B. Saunders Company, [c. 1939]. 666 pages, 8vo. Cloth, $6.00.

THE number and diversity of biochemical test procedures are usually startling to the average practitioner, and their details appalling. Nevertheless, a knowledge of their facilities in diagnosis, prognosis and therapy becomes more and more necessary with each passing year. To correlate the scope of laboratory functions and clinical requirements this work was prepared under a slightly different title eight years ago. The rich development in the field since then is reflected by the addition of new sections and chapters in this second edition. The experience and critical appraisal of the authors furnish a thoroughly practical survey of a complicated subject, and deftly ties it into clinical medicine. It is highly recommended to student, practitioner, and laboratory worker.

IRVING M. DERBY

GEORGE RYERSON FOWLER
1848–1906

Classical Quotations

• The head of the bed was raised and kept so for seventy-two hours. . . . The angle assumed has varied somewhat, but I insist that the elevation of the bed from the horizontal shall be at least from twelve to fifteen inches.

George Ryerson Fowler.

Diffuse Septic Peritonitis, with Special Reference to a New Method of Treatment, namely the Elevated Head and Trunk Posture, to Facilitate Drainage into the Pelvis, with a Report of Nine Consecutive Cases of Recovery.

Medical Record 57:617-623, April 14, 1900.

Gall Bladder Diseases

DIAGNOSIS AND MANAGEMENT OF DISEASES OF THE BILIARY TRACT. By R. Franklin Carter, M.D., Carl H. Greene, M.D. and John R. Twiss, M.D. Philadelphia, Lea & Febiger, [c. 1939]. 432 pages illustrated. 8vo. Cloth, $6.50.

THIS book contains a satisfactory review of the literature of the subject presented, and describes in detail the experience of the authors in their work at the New York Post-Graduate Hospital. The book is divided into four parts. Part I

deals with etiological considerations, and includes interesting chapters on gall-bladder physiology and jaundice. Part II, on diagnosis, contains four long chapters on biliary drainage, but devotes only four pages to a description of the technique of cholecystography, with no illustrations of its findings. Part III, on medical management, gives much space to treatment of functional disturbances, and presents many radically different gall-bladder diets, making a not too successful attempt at providing indications for each type. Part IV, on surgical management, gives in detail the approved surgical indications and techniques, and includes a chapter on cholangiography. Part V recites the experiences of the authors as compared with those in the literature and part VI is a valuable appendix, showing age-weight tables and giving lists of foods with their chemical contents. On the whole the book is a valuable addition to the literature on the subject, and one to which reference should frequently be made.

A. F. R. ANDRESEN

Pioneers in Mental Processes

MIND EXPLORERS. By John K. Winkler and Walter Bromberg, M.D. New York, Reynal & Hitchcock, [c. 1939]. 378 pages. 8vo. Cloth, $3.00.

THIS book is the product of the cooperative efforts of a very eminent psychiatrist and a well-known biographer.

It deals with the lives and achievements of the men who laid the groundwork for the science which now comprises psychology. It is a story of the explorers of the human mind who approached the subject from different directions and whose collective contributions laid the foundations of modern psychology. The personal lives of these individuals, the settings in which their work was done, and the social significance of their contributions are clearly discussed and well outlined.

The headings of a few chapters give a glimpse of the contents of the book i.e., Phrenology—A Scientific Miscarriage; A Psychologic Prima Donna; White Coats and White Mice; Watson, The Iconoclast; and Freud, Late of Vienna.

Considering the great interest that people in general are now showing in human behavior and its deviations, the book will find a prominent place in the libraries of all who are interested in the subject.

IRVING J. SANDS

A New Edition of McPheeters Varicosities

INJECTION TREATMENT OF VARICOSE VEINS AND HEMORRHOIDS. By H. O. McPheeters, M.D. and James K. Anderson, M.D. Second edition. Philadelphia, F. A. Davis Co. [c. 1939]. 323 pages, illustrated. 8vo. Cloth, $4.50.

THE appearance of this second edition will be, we are sure, as enthusiastically received as was the original edition which appeared in 1938. The work of Dr. McPheeters and Dr. Anderson is so well known to the medical profession that it is unnecessary to review in detail the contents of this recent revision.

The work has been brought entirely up to date. Improvements in technic and the various changes which have been found to be beneficial in handling varicose veins and hemorrhoids are given proper consideration. The results of the treatment by injections are honestly evaluated. The cases which should be selected for treatment by this method are carefully described, and the indication and contraindications are clearly given.

In the introduction to the chapters dealing with hemorrhoids, a warning is sounded so that the "over enthusiasm" of some of its advocates will not cause it to fall into disrepute. It is fairly stated that external hemorrhoids should never be injected. Careful selection of the internal

variety must be made in order to obtain satisfactory results.

To anyone who contemplates treating varicose veins or hemorrhoids by the injection treatment, a book such as this will be of the utmost help.

MERRILL N. FOOTE

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Restorative Surgery

THE SURGERY OF INJURY AND PLASTIC REPAIR. By Samuel Fomon, M.D. Baltimore, Williams & Wilkins Company, [c. 1939]. 1409 pages, illustrated. 4to. Cloth, $15.00.

THE author presents this large and comprehensive volume after spending about twenty-five years accumulating and assimilating the amassed material, in order that the practitioner, as well as the specialist, might have at hand all of the basic principles supplemented by the most recent work in this particular field of surgery. Dr. Samuel Fomon has undoubtedly accomplished this weighty task in an excellent manner.

The illustrations in this volume, for the most part, are black and white drawings, and along with the text give a practical picture of the technique, the instruments used, the type of anesthesia for selected cases, and the time and indications for various procedures.

Most of the various types of deformities, whether congenital or the result of injury, are considered in detail with a meritorious bibliography at the end of each chapter, of which there are twenty. Two of these chapters are devoted to *Shock,* and the *Fluid, Salt, And Acid Base Balance.* Under the chapter dealing with *Surgical Affections of the Skin* the various procedures for correcting the wrinkling ravages of age in the vain are discussed and fully illustrated.

Because of these well illustrated technical procedures and also because of its superior bibliographies, this book comes recommended to both the practitioner of general surgery and to the specialist.

HERBERT T. WIKLE

The Birth of a Great Hospital

THE FLOWERING OF AN IDEA. A Play Presenting the Origin and Early Development of the Johns Hopkins Hospital. By Alan M. Chesney. Baltimore, Johns Hopkins Press, [c. 1939]. 86 pages. 8vo. Cloth, $1.50.

THIS play was written to celebrate the fiftieth anniversary of the opening of the Johns Hopkins Hospital. In four scenes Dr. Chesney presents the origin and early development of the Hopkins Hospital. Within a short compass we learn of the birth and flowering of the idea that resulted in the creation of the Johns Hopkins Hospital, an institution that was to have a far-reaching influence on American medicine.

GEORGE ROSEN

A New Edition of Sutton's Dermatology

DISEASES OF THE SKIN. By Richard L. Sutton, M.D. and Richard L. Sutton, Jr., M.D. Tenth edition. St. Louis, C. V. Mosby Company, [c. 1939]. 1549 pages, illustrated. 4to. Cloth, $15.00.

IN this tenth edition the authors institute many improvements over preceding ones. The book is monumental in character. Every conceivable skin condition is included. It leaves nothing to be desired. Many new illustrations, both cuts and in color, have been added. They give a clear picture of the disease under discussion. The legends, in many cases, tell a little story instead of just a title. The tendency to limit a dermatosis to one name by eliminating synonyms is carried out wherever possible. This eliminates confusion and makes for clarity.

Grouping of various diseases according to the underlying pathological changes is a radical departure from the ninth edition wherein the grouping was by etiology.

Pathology of many of the conditions is given, and illustrations of the same are numerous and descriptive. This is a useful feature, especially in a subject where pathology has been ignored for years.

The section devoted to physical therapy whittles everything down to the bare necessities giving mainly the fundamentals of varicus agents used. As this is a text on cutaneous disorders it does not dilate at length on such related subjects as radiation therapy, etc., but leaves that to books in those fields.

The authors are to be congratulated for their free comment for and against various therapeutic results obtained by others. They do not hesitate to agree or disagree with, from their own experiences, the conclusions published by various investigators. This makes for stimulating reading.

The text is filled with valuable contributions of the authors' own researches and from their wide experience in practice and teaching.

The bibliography is most extensive. The up-to-dateness of the text is assured by many references to articles written within the last year or two. The little side remarks throughout the bibliography enliven what, ordinarily, is a very dry part of any book. This is a unique idea.

GEORGE F. PRICE

The Problem of Medical Care

THE PATIENT'S DILEMMA. The quest for Medical Security in America. By Hugh Cabot, M.D. New York, Reynal & Hitchcock, [c. 1940]. 284 pages. 8vo. Cloth, $2.50.

THE question is asked on the jacket of this book, "How can you and your family be provided with adequate medical care at the lowest cost." The real goal to which the author is pointing is a maintenance of high standards in medical education, medical research and in medical care. The problem, as he sees it, is not just medical care, or even adequate medical care, but GOOD medical care, such as is the ideal of certain selected medical centers. Is there a demand from the consumers or the patients for such good medical care, and how can such treatment become more generally available?

In answer to the first question, evidence is adduced that many of the patients are unfamiliar with the ever-changing advances of modern medicine, or do not know where to apply to obtain these benefits. There seems, however, to the author, to be an increasing demand for good medical care and a growing dissatisfaction with the present methods of indeterminate costs. The answer to the second question, as to how can such treatment be made more generally available, is in governmental control of medicine. The author gives unqualified endorsement of the excellent work done by organized medicine in the purely professional fields of investigation and treatment, but questions whether the important economical and social aspects of medicine have been handled in an equally judicial and intelligent manner.

Criticism has been directed against the author of this book because his past and present associations would seem to have prejudiced him against the present status of the practice of medicine in the United States, but criticism should not be generic or so inclusive as to constitute a blanket rejection of the book itself. The questions discussed in *The Patient's Dilemma* are controversial—acutely so. The author has presented his side of the story clearly, logically, and interestingly. Those who disagree with his conclusions may not be convinced by his arguments, but they may be sure to learn something on what is being thought and done in the other fellow's camp.

JOSEPH RAPHAEL

✚

Another Sex Book

SEXUAL PATHOLOGY. A Study of Derangements of the Sexual Instinct. By Magnus Hirschfeld, M.D. New York, Emerson Books, Inc. [c. 1940]. 368 pages. 8vo. Cloth, $2.95.

HIRSCHFELD'S book is an oldtimer; the German edition from which this translation was made appeared about twenty years ago. It contains three lengthy chapters entitled Sexual Symbolism, Hypereroticism, and Impotence. Each chapter contains an abundance of illustrative case reports but little else of value.

The author's discussion of etiological factors is necessarily antiquated and deficient. The reader who is looking mainly for clinical material will find the book interesting. There is an author index in which Krafft-Ebing's name appears 21 times. Steinach's appears only twice, and Freud's only once.

The translation is by Jerome Gibbs, whose knowledge of English medical terminology is inadequate.

H. L. WEHRBEIN

Noyes Mental Disorders Revised

MODERN CLINICAL PSYCHIATRY. By Arthur P. Noyes, M.D. Second edition. Philadelphia, W. B. Saunders Company, [c. 1939]. 570 pages. 8vo. Cloth, $5.00.

THE first edition of Noyes' textbook was outstanding for its clarity, interest compelling style, practical attitude, and modernness. These features, as well as others outranking most other texts, are continued with the present volume. Psychobiological integrative and adaptive forces are analytically described in best accordance with present-day views. Symptomatology of formal clinical entities is clearly outlined and illustrated, including all acceptable recent developments. Details of treatment are completely modern, practical, and of demonstrated worth. Beyond the indispensable material of a major textbook, observations and conclusions well reflect the rich advancement in psychiatric concept, attitude and therapy during the past five years. Illustrative of the completely up-to-date revision are the sections dealing with metrazol and insulin therapy for schizophrenic and other disorders, even to subsequent complications. Criminology, home care, and child guidance are subjects that could perhaps be further detailed. It is a valuable text for students, and is the present volume of choice for the practicing as well as the hospital physician.

IRVING M. DERBY

Diagnosis for the Surgeon

SURGICAL DIAGNOSIS. By Stephen Power, M.S. Baltimore, Williams & Wilkins Company, [c. 1939]. 228 pages, illustrated. 8vo. Cloth, $4.50.

THIS excellent little book is a worthwhile addition to the steadily increasing number of works of this sort.

The text is based entirely on personal observations of the author. The comments are brief and to the point. The informal style enhances the interest.

There are some defects which will probably be remedied in future editions. The format could be improved. Larger type would make for easier reading.

MAYER E. ROSS

Care of the Maternity Patient

MATERNAL CARE AND SOME COMPLICATIONS. The Principles of Antepartum, Intrapartum, and Postpartum Care and the Management of Some Serious Complications. F. L. Adair, M.D., Editor. Chicago, University of Chicago Press, [c. 1939]. 194 pages. 12mo. Cloth, $1.50.

THE volume combines, with minor revisions, the two handbooks, *Maternal Care* and *Maternal Care Complications*, prepared for the use of doctors, internes, nurses, and students. It presents simply the broad principles underlying obstetric care, as well as a detailed account of the treatment of the more important complications. There can be no question that maternal mortality would soon be reduced, if the teachings of this book were more universally adopted.

Any physician who accepts a pregnancy case must also accept the full responsibility for providing his patient with adequate obstetric care.

The book is highly recommended to all who play a part in the care of the maternity patient.

ALEXANDER H. ROSENTHAL

The Story of Dusty Lungs

PNEUMOCONIOSIS (SILICOSIS) THE STORY OF DUSTY LUNGS. A preliminary Report. By Lewis G. Cole, M.D., and William G. Cole, M.D. New York, John B. Pierce Foundation [c. 1940] Illustrated. 4to. Cloth, $1.00.

THE authors have recorded their observations and findings in a 52 page report. This report is divided into 5 chapters.

1—Introduction
2—The Dust Flecks & Their Carriers
3—Four Types of Pneumoconiosis
4—Roentgenology
5—Social & Economic Aspects

In discussing the plan and scope of investigation, the authors state "the conventional approach to the study of a subject by a person unfamiliar with it is to read all the authorities on the subject have written before making any observations himself.—We have tried to avoid this conventional approach and refrain from reading the stories of other explorers during our quest lest it divert us from an unbiased outlook."

Some of the statements are a challenge to the older concepts of silicosis. In discussing nodular pneumoconiosis, the authors ask the question "is silicosis caused by silica?" They state "The fact that these nodules contain an overwhelming proportion of opaque dust flecks, far outnumbering any refractive crystals of silica, leads one to suspect that such a nodule, hitherto considered pathognomonic of silicosis and used as a basis for the diagnosis and definition may not in reality be silica. On the contrary may not this so called 'silicotic nodule' be caused, at least partly, by opaque non-refractive dust which is not silica?"

There is a discussion of four types of Pneumoconiosis:—

Type I—Peribronchial - Perivascular - Lymph-node Manifestations.
Type II-Nodular Pneumoconiosis.
Type III-Pockmarking Pneumoconiosis.
Type IV-Acute Silicosis

The pathological and x-ray findings of each type are discussed as well as the social and economic aspects. The "pockmarking" lesion Type III, has not been described by previous investigators. Acute silicosis, the "rapidly developing silicosis", at the present time is not compensible and "presents a serious social problem." On x-ray examination of this group the normal lung markings are obscure and there is a "diffuse, haziness or cloudiness involving the lung fields."

There is an appendix to the book which includes:—

1—The Roentgenologic Diagnosis of Pneumoconiosis (Silicosis) & Use of the "Electric Eye" To Determine Regional Densities. (Reprinted from Radiology, September, 1939.)

2—Dyspnea of Silicosis: What Causes It? (Reprinted from the Journal of the American Medical Association, Sept. 23, 1939.)

The work of these authors is interesting and stimulating. There is a voluminous literature on the subject of pneumoconiosis and yet little reference has been made to the work of recognized leaders in this field of investigation.

This report will undoubtedly stimulate subsequent studies, especially among pathologists interested in silicosis.

IRVING GRAY.

Sanitary Engineering

ELEMENTS OF SANITATION. Edited by Edw. S. Hopkins. New York, D. Van Nostrand Company [c. 1939]. 435 pages, illustrated. 8vo. Cloth, $4.00.

THIS book is of special interest to sanitary engineers, as it deals for the most part with those phases of community sanitation which are supervised by them. Topics such as water supply, sewage and refuse disposal, ventilation, food and milk sanitation are discussed.

As a reference book it is of value to those physicians engaged in public and other community health activities.

A. E. SHIPLEY.

The Management of Shock

SHOCK. Blood Studies as a Guide to Therapy. By John Scudder, M.D. Philadelphia, J. B. Lippincott Company [c. 1940]. 315 pages, illustrated. 4to. Cloth, $5.50.

DOCTOR SCUDDER'S monograph on shock and its management brings this problem up to date in a most concise, clear and instructive manner. His laboratory findings and research make it possible to anticipate the fall in blood pressure in shock by several hours. The value of which is obvious to all clinicians who may start adequate treatment in time to abort or control shock. The four tests suggested by the author can be done in fifteen minutes, namely, cell volume, specific gravity of whole blood, specific gravity of plasma, and plasma proteins. These tests not alone foretell shock, but also help to diagnose concealed hemorrhage which may behave like shock.

His laboratory studies and their clinical application have been most encouraging in the management of dehydration as seen in intestinal obstruction, burns, acute pancreatitis and perforated ulcers of the gastro-intestinal tract. Case reports are numerous and quite complete as to laboratory findings and treatment of the above conditions and shock. Especially interesting are the potassium estimation in blood cells, whole blood and plasma, and the use of intraven-

ous hypertonic saline solution, eschatin and whole blood transfusion. He discourages the use of stored blood for transfusion, because it is high in potassium, and therefore increases an already high blood and plasma potassium in shock and dehydration. The chapter on laboratory manual is pithy and well illustrated. It describes various tests in detail and especially the apparatus for measuring specific gravity of fluids, "The Falling drop method" based on Stokes' law as introduced in 1926 by Barbour and Hamilton.

This monograph is easy to follow, provided the reader has a fair knowledge of the fundamentals of surgery. The tests as outlined can be easily performed in any well appointed hospital laboratory, and will be of utmost assistance to the clinician in recognizing shock or hemorrhage in time to institute rational treatment.

GAETANO DE YOANNA.

Effect of Silver on the Body

ARGYRIA. The Pharmacology of Silver. By William R. Hill, M.D. and Donald M. Pillsbury, M.D. Baltimore, Williams & Wilkins Company, [c. 1939]. 172 pages. 8vo. Cloth, $2.50.

AT the instance of Mr. Lawrence Addicks for the American Silver Producers' Research Project a fellowship was granted the department of Dermatology and Syphilology of the University of Pennsylvania. As the preface states, the primary purpose has been a review of the literature of the subject in an attempt to formulate conclusions concerning the incidence of argyria, the circumstances of its production, and the most feasible means of prevention of this most unfortunate complication.

That the literature of the subject is extensive is evidenced by some six hundred references in the bibliography; and a most comprehensive Summary and Conclusions at the end of the book makes this work the most informative and authoritative aid for those who, in the press of a busy life, demand the latest and best thought on the subject.

The authors note that there has been a very definite increase in the number of cases of generalized argyria in the past decade, and this increase is coincidental with the increased use of colloidal silver compounds.

While argyria produces no significant disturbance of the physiology of the affected organs, or of the general health of the patient, it is a permanent, and often highly disfiguring change; and there are no known methods available to prevent the deposition of silver in tissue or hasten its excretion after it has been introduced into the blood stream. The writers feel that the public should be protected by the inclusion of an adequate warning regarding argyria on the label of containers of silver compounds dispensed for medical use.

NATHAN THOMAS BEERS.

A Nurses G. U. Manual

MODERN UROLOGY FOR NURSES. By Sheila M. Dwyer, R.N., and George W. Fish, M.D. Philadelphia, Lea & Febiger [c. 1940]. 290 pages, illustrated. 8vo. Cloth, $3.25.

THIS little work is a valuable addition to a number of similar manuals for nurses published in recent years. It is authoritative, well-written, well-arranged, and fully illustrated.

The rapid growth of the specialty has created a definite demand for such a book, not only for the training of nurses, but useful and helpful in the teaching of medical students and hospital internes.

It can be used to advantage as a practical guide in diagnostic procedures and in the treatment of urological problems, medical and surgical, from the professional, as well as the nursing standpoint.

We commend the authors on their excellent contribution.

AUGUSTUS HARRIS.

BOOKS RECEIVED

for review are promptly acknowledged in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notes will be promptly published shortly after acknowledgment of receipt has been made in this column.

A History of Contagious Disease Care in Chicago Before the Great Fire. By Constance B. Webb. Chicago, University of Chicago Press, [c. 1940]. 169 pages. 8vo. Paper, $1.25.

Trapping the Common Cold. By George S. Foster, M.D. New York, Fleming H. Revell Company, [c. 1940]. 125 pages. 12mo. Cloth, $1.25.

Ten Years in the Congo. By W. E. Davis. New York, Reynal & Hitchcock, [c. 1940]. 301 pages. 8vo. Cloth, $2.50.

The New International Clinics. Original Contributions: Clinics; and Evaluated Reviews of Current Advances in the Medical Arts. Edited by George M. Piersol, M.D. Volume I New Series 3. Philadelphia, J. B. Lippincott Company, [c. 1940]. 319 pages, illustrated. 8vo. Cloth, $3.00.

The Electrocardiogram in Congenital Cardiac Disease. A Study of 109 Cases, 106 with Autopsy. By Maurice A. Schnitker, M.D. Cambridge, Harvard University Press, [c. 1940]. 147 pages, illustrated. 8vo. Cloth, $3.00.

Frontier Doctor. By Urling C. Coe, M.D. New York, The Macmillan Company, [c. 1940]. 264 pages. 8vo. Cloth, $2.50.

The Newer Nutrition in Pediatric Practice. By I. Newton Kugelmass, M.D. Philadelphia, J. B. Lippincott Company, [c. 1940]. 1155 pages, illustrated. 8vo. Cloth, $10.00.

Men Against Madness. By Lowell S. Selling, M.D. New York, Greenberg Publisher, [c. 1940]. 342 pages, illustrated. 8vo. Cloth, $3.50.

Handbook of Phytopathogenic Viruses. By Francis O. Holmes. Minneapolis, Burgess Publishing Company, [c. 1939]. 221 pages. 8vo. Paper, $2.00.

Clinical Roentgenology of the Alimentary Tract. By Jacob Buckstein, M.D. Philadelphia, W. B. Saunders Company, [c. 1940]. 652 pages, illustrated. 4to. Cloth, $10.00.

Directory of Medical Specialists Certified by American Boards, 1939. Paul Titus, M.D., Directing Editor. New York, Columbia University Press, [c. 1940]. 1573 pages. 8vo. Cloth, $5.00.

A Symposium on the Blood and Blood-Forming Organs. Madison, University of Wisconsin Press, [c. 1939]. 264 pages, illustrated. 8vo. Cloth, $3.50.

The Medical Career and Other Papers. By Harvey Cushing. Boston, Little, Brown and Company, [c. 1940]. 302 pages. 8vo. Cloth, $2.50.

Essentials of the Diagnostic Examination. By John B. Youmans, M.D. New York, The Commonwealth Fund, [c. 1940]. 417 pages, illustrated. 12mo. Cloth, $3.00.

Faiths That Healed. By Ralph H. Major, M.D. New York, D. Appleton-Century Company, [c. 1940]. 290 pages, illustrated. 8vo. Cloth, $3.00.

The Recollections of a Country Doctor. By James A. Holley, M.D. Boston, Meador Publishing Company, [c. 1939]. 126 pages, illustrated. 8vo. Cloth, $1.50.

Maybe Tomorrow. A Nurse's Story. By Irene Kroth. Boston, Meador Publishing Company, [c. 1940]. 220 pages. 8vo. Cloth, $2.00.

Good Health and Bad Medicine. A Family Medical Guide. By Harold Aaron, M.D. New York, Robert M. McBride and Company, [c. 1940]. 328 pages. 8vo. Cloth, $3.00.

Transition Years. The Modern Approach to "the Change" in Womanhood. By Joseph Rety, M.D. New York, Greenberg, [c. 1940]. 168 pages. 8vo. Cloth, $1.75.

Modern Diabetic Care. Including Instructions in the Diet and the Use of the Old and New Insulins. By Herbert Pollack, M.D. New York, Harcourt, Brace and Company, [c. 1940]. 216 pages, illustrated. 8vo. Cloth, $2.00.

Injuries of the Skull, Brain and Spinal Cord. Neuro-Psychiatric, Surgical, and Medico-Legal Aspects. Edited by Samuel Brock. Baltimore, Williams & Wilkins Company, [c. 1940]. 632 pages, illustrated. 8vo. Cloth, $7.00.

Illustrations of Surgical Treatment. Instruments and Appliances. By Eric L. Farquharson, M.D. Baltimore, Williams and Wilkins Company, [c. 1939]. 338 pages, illustrated. 4to. Cloth, $6.50.

Sexual Disorders in the Male. By Kenneth Walker, F.R.C.S. and Eric B. Strauss, D.M. Baltimore, Williams & Wilkins Company, [c. 1939]. 248 pages, illustrated. 8vo. Cloth, $3.00.

Savill's System of Clinical Medicine. Dealing with the Diagnosis, Prognosis, and Treatment of Disease for Students and Practitioners. Edited by Agnes Savill, M.D. and E. C. Warner, M.D. Eleventh edition. Baltimore, William Wood & Company, [c. 1939]. 1141 pages, illustrated. 8vo. Cloth, $9.00.

Simplified Diabetic Management. By Joseph T. Beardwood, Jr., M.D., and Herbert T. Kelly, M.D. Third edition revised. Philadelphia, J. B. Lippincott Company, [c. 1939]. 221 pages, illustrated. 12mo. Cloth, $1.50.

Mineral Metabolism. By Alfred T. Shohl, M.D. New York, Reinhold Publishing Company, [c. 1939]. 384 pages, illustrated. 8vo. Cloth, $5.00.

Virus and Rickettsial Disease with Especial Consideration of Their Public Health Significance. A Symposium Held at the Harvard School of Public Health, June 12-17, 1939. Cambridge, Harvard University Press, [c. 1940]. 907 pages. 8vo. Cloth, $6.50.

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DIABETIC COMA WITH CONVULSIONS

—Concluded from page 215

tetany was made. There was a cessation of the seizures upon administration of calcium gluconate.

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2. Abbe: Quoted by Conner, *loc. cit.*

3. Blankenburg, K.: *Deutsche med. Wchnschr.* 63:141-142, Jan. 22, 1937.

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Medical Times

Dietetic Digest

THE increased importance of the field of nutrition has prompted a review of the progress of the medical sciences in dietetics and nutrition. Each month in these pages is presented the current literature in this field, abstracted by

Madeline Oxford Holland, B.Sc., M.Sc.

Synthetic Vitamin E in Amyotrophic Lateral Sclerosis

WECHSLER, in *J. Amer. Med. Assoc.*(114:11 (Mar. 16, 1940) 948) presents clinical results obtained with administration of synthetic vitamin E in treatment of amyotrophic lateral sclerosis, a chronic motor-systemic disease involving the anterior horn cells and pyramidal tracts.

An adult disease of relentlessly progressive degentrative nature, the condition shows loss of power, atrophies and fibrillations with ultimate invasion of the medulla and death. Of unknown etiology, remissions are rare and no treatment or cure has heretofore been reported. Early symptoms are obscure and prevent recognition by patient or physician. Eventual paralysis occurs.

Two cases recently observed and treated by Wechsler have presented spectacularly successful results, and the reports by this worker to the staff meeting of the Mount Sinai Hospital in New York, and later to the Section on neurology and psychiatry of New York's Academy of Medicine have attracted considerable attention.

Basic experiments and clinical observation by various authorities have shown that deprivation of vitamin E has induced atrophies and paralysis, degeneration of the nervous system, and affection of the posterior columns and pyramidal tracts as well as the anterior horn cells. The analogy was pertinent, but the exact activity and etiology was indefinite. This analogy led the worker to administer doses of vitamin E to the recorded cases.

Vitamin E, better identified as alpha-tocopherol or the anti-sterility factor of wheat germ oil, has been isolated and synthesized, and Wechsler employed the synthetic alpha-tocopherol acetate, developed as ephynal Roche.

A male patient, aged 52, of active life, presented a complaint of one year's duration, characteristic of the condition. Vitamin B therapy previously carried out had no effect. Administration of 3 mg. Ephynal tablets, two tablets three times a day brought improvement almost immediately. Accidental discontinuation of dosage caused recurrence of symptoms and weakness. Experimentally, dosage was deliberately discontinued after four weeks, again resulting in recurrence of symptoms, which disappeared on further treatment. At present, good muscle power has been restored and successful conclusion of treatment is evident.

A female patient, aged 36, housewife, with condition of over a year's duration, of serious nature and evident identity, was treated for three months under same dosage, and discharged as on way to recovery. Recent observation indicates complete recovery.

The unusual significance of analogy of condition, effective recovery, and control studies in discontinuance of administration and recurrence of symptoms which were subsequently relieved by treatment, give evidence that synthetic alpha-tocopherol is a specific for vitamin E-deficiency which may prove to be the chief causative factor of amyotrophic lateral sclerosis.

—Continued on page XXI

A NEW 3-WAY ATTACK

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Further experiment in the laboratory and clinically as cases appear, are under way and the findings in these two cases cited will be further verified, but the preliminary results seem to indicate that alpha-tocopherol may induce marked improvement or complete recovery in such conditions.

Inasmuch as ordinary diets may be deficient in vitamin E, or malabsorption may be present, diet studies should be carried out. Vitamin B therapy alone has not been successful in such cases, but it may be later shown that vitamin B therapy in conjunction with vitamin E therapy may be more effective.

In his report to the New York Academy, Wechsler cited six additional cases which had been treated with varying success. Reference was also made to simultaneous investigation of Bicknell reported in *Lancet* (1:10-13 (Jan. 6, 1940)) of two similar cases which had also responded positively to similar treatment. The latter worker also reported successful results in 17 of 18 cases of muscular dystrophy.

Wechsler and Bicknell both state that further study and clinical trial are necessary, but stress the evident possibilities of vitamin E therapy in amyotrophic lateral sclerosis.

Anemias in Digestive Diseases

KUGELMASS, in the *New York State Journal of Medicine* (39:23 (1939) 2202), states that the digestive tract bears a definite reversible relationship with the blood. The two systems are deeply dependent one upon the other, nutritional and constitutional factors determining the functions of each.

Of the many nutritional factors necessary for normal health the hematopoietic system, which must be properly nourished in order to function normally, are as follows: Of the 22 protein-derived amino acids necessary, arginine, glutamic acid, proline, and oxyproline are indispensable in the synthesis of blood cells. Deficiency of any of these acids for extended periods of time will cause anemia, regardless of the adequacy of other nutrients. Such a deficiency is not an unusual cause for anemia in older children, for their diet generally abounds in protein-free foods. Of the 12 vital minerals from fruits and vegetables, iron, copper, manganese and nickel are of principal importance to this system. A deficiency of iron causes an anemia in which red cells are produced in relatively normal numbers but are unsaturated with hemoglobin, thus a hypochromic anemia with a low color index, generally accompanied by microcytosis and poikilocytosis. Breast milk and cow's milk are both deficient in iron. Therefore iron from other foods must supplement the infant's hepatic store of the metal.

Iron utilization is catalyzed by copper (the latter effective only in the presence of iron) hastening its conversion into hemoglobin, consequently accelerating the maturation of red cells. Increase of calcium decreases iron requirement. Manganese, nickel and chromium also accelerate red cell maturation, indicating that copper is not alone in this property.

The third factor is the liver extrinsic factor (also in other viscera), abundant in meat protein. The extrinsic factor, acted upon by the enzyme (intrinsic factor) in normal gastric juice, forms a substance necessary for red cell maturation with probable reversible action according to the law of mass action. The antianemia liver principle, pernicious anemia factor, and similar names have been applied to it. Formed in the stomach or upper duodenum in acid medium, it is absorbed from the stomach and stored in the liver, kidney, brain and other viscera. It is called the Erythrocyte Maturing Factor (EMF) and prepares the cells for emergence from the marrow. Increased volume or macrocytosis indicates on EMF deficiency, causing macrocytic anemia due probably to defects in gastric and duodenal digestion and absorption.

Vitamins B_2, C, and D make up the fourth dietary factor. Riboflavin (B_2) is necessary for vascular integrity in the formation and repair of the semipermeable membrane tissue composing vascular structure. Ascorbic acid (C) is instrumental

—Continued from page XXI

in causing a definite reticulocyte response in microcytic anemia, the site of action being at the normoblast stage of red cell maturation. The synthesis of platelets from megakarocytes involves the use of vitamin D.

The digestive factors include first hydrochloric acid, the concentration of which in the stomach determines the availability of some of the nutritional material for normal hematopoiesis. From birth its concentration gradually increases and varies with heredity, constitution and nutrition being markedly decreased by infections, fevers, hot weather and emotional excitement. The optional concentration is that which assures the secretion of the intrinsic factor, the availability of iron and catalytic metals.

The next digestive factor, the intrinsic factor, is also dependent upon proper concentration of HCl for its formation.

Necessary for making available nutrients for normal hematopoiesis, maintenance, growth and development are the specific alimentary enzymes. Deficiency of these enzymes as a cause of disease is rare.

Bile, the fourth digestive factor, facilitates iron absorption and utilization.

In the blood the red cell level is maintained at a constant, an exact balance existing between the rate of production and rate of destruction with the span of life about 30 days. An increased rate of destruction or loss of red cells is an anemia-producing factor. This may not be evidenced because of compensation by an increased rate of production. A decreased rate of destruction can be compensated for only by a decreased rate of formation. Because of limit of cell-life duration, complete cessation of production leads to severe anemias.

Decrease of substance necessary for construction or maturation, deficient quantity of bone marrow to produce required cell number, or partial or complete failure of

marrow-cells to divide may cause decreased red-cell formation and anemia due to external or internal hemorrhage, hemolysis, mechanical destruction of cells or excessive activity of normal blood-destroying mechanism.

Absence of EMF interferes with normal transition of megaloblast to mature erythrocyte. A deficiency of iron, copper, vitamin C or thyroxin interferes with normal division and growth of normoblast and formation of hemoglobin usually at the erythroblast stage and resultant normoblast, deficient in hemoglobin produces hypochromic erythrocytosis and a decreased color index. The cells decrease in size, color index drops and microcytes emerge.

Anemias associated with gastrointestinal tract diseases may be macrocytic, microcytic, or normocytic, with the cause difficult to identify and the anemia to classify. Type must be classified according to child and clinical picture.

Macrocytic anemia develops when the supply, absorption or use of EMF is deficient with a characteristic macrocytosis blood picture. Anisocytosis is present, the hemoglobin content per unit volume is normal and the red cells more deeply stain.

The reticulocyte count is low 0.5% and the bone marrow is hyperplastic with very few cells delivered to the bloodstream.

—Continued on next page

In intestinal obstruction the vomiting and diarrhea interfere with ingestion of the extrinsic factor and with absorption of EMF. Thus can be seen the need for a bland low-residue diet rich in liver extract or administration of EMF by injection. Insufficient EMF is absorbed from small intestine in celiac disease. Sprue causes anemia due to dietary deficiency of the extrinsic factor and deficient absorption of EMF from the small intestine.

Normocytic anemia is generally caused by acute external or internal hemorrhage from the gastrointestinal tract, from internal blood destruction from hemolytic poisons and intestinal parasites and deficiency diseases. Anisocytosis is present.

In the deficiency diseases there are failures of the red cells to mature beyond the karyocyte, pronormoblast and normoblast stages.

Microcytic anemia is hypochromic, the result of deficiencies in substances necessary for the formation of hemoglobin such as iron, copper and protein. It is characterized by particularly low counts, hemoglobin content, indices, and cell diameter as well as poikilocytosis and anisocytosis. Administration of iron in chronic hemorrhage such as in ulcerative colitis and Meckel's diverticulum is ideal in restoring the iron lost in the reserves but difficult due to the loss of weight, appetite and also infection of the ulcerated areas with subsequent hypoplasia of the marrow. Anemia in alimentary allergy is due to restricted protein diet which in turn decreases amount of iron. Administer inorganic iron in such cases. Esophageal stenosis causes semi-starvation and thus a deficiency of iron. Additonal iron may be fed through gavage and orally after instrumental dilatation.

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NEWS AND NOTES

United Hospital Fund

DAVID H. McAlpin Pyle was re-elected president of the United Hospital Fund of New York at the recent annual meeting of the corporation in the Fund offices, 370 Lexington Avenue.

Other officers re-elected were the honorary vice-presidents, William Fellowes Morgan and Henry J. Fisher; the active vice-presidents, Mrs. William Armour, Arthur A. Ballantine, Francis D. Bartow, Mrs. F. Meredith Blagden and Edwin P. Maynard; the secretary, George A. Wilson, and the assistant treasurer, Homer Wickenden.

Walter Ewing Hope, general chairman of the 1939 United Hospital Campaign, was elected to the board of trustees and made a member of the executive committee.

Hospital Council of Greater New York

TWO of New York's voluntary hospital corporations have joined to assure benefits of seashore, sunshine, rest and recreation as an extension of hospital service to crippled children of the poor.

This became known very recently with the report of an agreement between the Hospital for the Ruptured and Crippled, 321 East 42nd Street, and St. John's Guild, which has operated Seaside Hospital, New Dorp, Staten Island, for three months each summer as a general hospital for children. Under the agreement the Hospital for Ruptured and Crippled, in cooperation with the Guild, will take over the management of the plant and personnel of Seaside Hospital and operate it on a year-round basis. Both the Guild and Ruptured and Crippled Hospital will cooperate in financing the joint venture.